Volume 75 No 3
March 2007

Amateur Radio

THE MAGAZINE FOR AUSTRALIAN RADIO AMATEURS

WIRELESS INSTITUTE OF AUSTRALIA

$7.00
incl GST

The Sun: friend or foe?

in HF DX

IPS (Ionospheric Prediction Service) Online Tools

WICEN takes up the bushfire challenge

ISSN 0002-6859

Take a moment to wonder why, we can offer you a 3 year warranty ...

$17,581 RRP

FTDX9000D

The ultimate all options installed version of "The Radio"

200W HF-6m All-mode transceiver.
Large TFT display including world & greyline maps, logbook, time, rotator and great circle direction features.
World's first ever Cannon (XLR) Professional Microphone Connector
64MB compact flash card

...it's because nobody makes 'em like Yaesu.

Our high quality radios are extremely tough and reliable. But if something should go wrong you'll have peace of mind with support from our Australian lab headed by a factory trained technician direct from Japan with 20 years of experience.

FT 60R

The new generation dual band hand-held

Emergency Automatic ID System that causes the FT-60 to transmit your callsign and engage the radio's microphone, even if you are disabled.
1000 Memory Channels with 10 Memory Banks.
Receive coverage from 108-999MHz AM/FM.
Automatic Range Transponder System.
RF Squelch System with menu option.
Strong 5w output.

$376 RRP

VX 7R

Ultra rugged submersible hand-held

Tri-Band (50/144/430MHz), Dual Receive, Continuous receive coverage from 500kHz to 999MHz in AM/FM/WFM.
450 main memory channels, 40 band-limit, 12 home and 10 hyper memories all with Alpha-Numeric tagging.
Two channel Dual Watch with 5 second polling.
Unmatched water ingress protection.

$695 RRP

$1,600 RRP

FT 897D

World first !

HF/VHF/UHF multimode portable/base station; Dual power supply or battery tray gives you the flexibility to go anywhere.
High Stability TXCO for a stable frequency.
High performance PLL design for fast lock times and smooth tuning in 10Hz steps.
200 memory channels in 10 groups.
Custom assignment of functions to dials.
Multi-colour data variable backlight modes.

$1,424 RRP

FT 857D

World's smallest HF/VHF/UHF Mobile

Cut out background noise with digital signal processing for both transmit and receive.
4 position microphone equalizer lets you tailor your sound.
Detachable head for easy installation and security.
Optional ATAS-120 active tuning antenna system that's fully retractable!
Optional DTMF microphone.
32 colour data variable backlight modes.

$853 RRP

FT8900R

50W Quad Band FM Mobile 29/50/144/430MHz

Hyper memory feature for preset actions.
Dual receive; Talk on one band, listen to another. Cross band repeat; Turn your car into a mobile repeater station.
VFO tracking for satellite operation.
WiRES™ internet linking for global communication.

YAESU *Premium Amateur Radios*
Choice of the World's top DX'ers

For your nearest authorised dealer please visit www.vxstd.com.au or call 03 9518 2100

FACTORY WARRANTY 3 Year

When purchased from an authorised dealer

Amateur Radio

Volume 75, Number 3
March 2007

The Journal of the Wireless Institute of Australia

ISSN 0002-6859

Editorial

Editor: Peter Freeman VK3KAI
editor-armag@wia.org.au

Technical Editor: Peter Gibson VK3AZL

Publications Committee Members
Brenda Edmonds VK3KT
Ron Fisher VK3OM
Evan Jarman VK3ANI
Tom Potter VK3UBS
Bill Roper VK3BR
Ernie Walls VK3FM

All circulation matters

nationaloffice@wia.org.au

How to submit material

General and Technical articles
Secretary
AR Publications Committee
PO Box 2175,
Caulfield Junction Vic 3161
or armag@wia.org.au

Columns and letters to Editor
Editor
AR Magazine
PO Box 273
Churchill, Vic 3842
or editor-armag@wia.org.au

Hamads
"Hamads" Newsletters Unlimited
PO Box 431
Monbulk VIC 3793
Fax 03 9756 7031
newunltd@bigpond.net.au

Advertising
All enquiries to
Newsletters Unlimited
PO Box 431
Monbulk Vic 3793
Phone: 03 9756 7797
Fax: 03 9756 7031
newunltd@bigpond.net.au

Registered Office
10/229 Balaclava Road,
Caulfield North VIC 3161
Australia
Phone: 03 9528 5962
Fax: 03 9523 8191

Production Deadlines

General articles, columns and advertising booking 10th day of previous month.

Hamads and advertising material 15th day of previous month

The contents of Amateur Radio are Copyright Wireless Institute of Australia © 2007

GENERAL

Review of Fred Swainston's Radio Theory Handbook 5
Paul Stampton VK3IH

WICEN: The voice of the bushfire fight 14
Graeme Scott VK2KE

Our friend and foe 17
Roger Harrison VK2ZRH

Visit "The Dish" 23
Robert Broomhead VK3KRB

Mountains of Fun! 27
Andy Sayers VK2AES

QSLs of the WIA National QSL Collection 40
Ken Matchett VK3TL, Hon Curator

What would you have said? 47
Jinkin (Jay) Frame

TECHNICAL

Ionospheric Prediction Service (IPS) Tools 6
Stephen Arnold VK2SJA,

Simple production of printed circuit boards 19
Neil Sandford VK2EI.

COLUMNS

ALARA 37
AMSAT 24
Beyond our shores 38
Book review 5
Contests 41
Cover story 17
Directory 56
DX – News & Views 48
Editorial comment 2
Gridsquare Standings 26
Hamads 54
News from... 30
VK2 30
VK3 31
VK5 32
VK7 32
Over to you 47
Silent keys 20, 21, 31, 39
Spotlight on SWLing 49
VHF/UHF – an expanding world 50
WIA comment 3
WIA News 4

Our Cover this month

An image of the Sun at the extreme ultraviolet (EUV) wavelength of 304 Angstroms, taken by the Extreme ultraviolet Imaging Telescope (EIT) aboard the Solar and Heliospheric Observatory (SOHO) spacecraft on 11 February 2007 at 07:19:38 UT. The Sun's EUV radiation is important to the formation and control of the Earth's ionosphere, and thus HF radio communications (Roger Harrison VK2ZRH). Image courtesy of NASA Goddard Space Flight Center, Solar Data Analysis Center; http://umbra.nascom.nasa.gov/images/latest.html

A more detailed description appears on page 17

Contributions to Amateur Radio
Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, 'How to write for Amateur Radio' is available from the National Office on receipt of a stamped self-addressed envelope.

Back Issues
Back issues are available directly from the WIA National Office (until stocks are exhausted), at $4.00 each (including postage within Australia) to members.

Photostat copies
When back issues are no longer available, photocopies of articles are available to members at $2.50 each (plus an additional $2 for each additional issue in which the article appears).

Disclaimer
The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

Wireless Institute of Australia

The world's first and oldest National Radio Society
Founded 1910

Representing
The Australian Amateur Radio Service

Member of the
International Amateur Radio Union

Registered Office of the WIA
10/229 Balaclava Road, Caulfield North Vic 3161
Tel: (03) 9528 5962 Fax (03) 9523 8191
email: nationaloffice@wia.org.au
http://www.wia.org.au

All mail to
PO Box 2175 Caulfield Junction VIC 3161
***Business hours:* 10am – 4pm weekdays**

National Office staff

Margaret Williams	Administration Officer
Dianne Ashton	Examination Officer
Brenda Edmonds	Office Volunteer

Board of Directors

President	Michael Owen	VK3KI
Vice-President	Ewan Mcleod	VK4ERM
	Robert Broomhead	VK3KRB
	Glenn Dunstan	VK4DU
	Trevor Quick	VK5ATQ
	Robyn Edwards	VK6XRE
	Phil Wait	VK2DKN
Secretary	Ken Fuller	VK4KF
Treasurer	Bruce Bathols	VK3UV

Coordinators

AMSAT	Graham Ratcliff	VK5AGR
ARDF	Jack Bramham	VK3WWW
Australian ARISS	Tony Hutchison	VK5ZAI
Awards	Mal Johnson	VK6LC
Clubs	Ted Thrift	VK2ARA
Contests	Phil Smeaton	VK2BAA
John Moyle Memorial Field Day	Denis Johnstone	VK3ZUX
Editor 'AR'	Peter Freeman	VK3KAI
EMC/EMR	Gilbert Hughes	VK1GH
	Keith Malcolm	VK1ZKM
Standards	Gilbert Hughes	VK1GH
	David Wardlaw	VK3ADW
	John Bishop	VK2ZOI
NTAC	John Martin	VK3KWA
Historian	Will McGhie	VK6UU.
IARU Region 3 Liaison	Michael Owen	VK3KI
Intruder Watch	Glenn Dunstan	VK4DU
International Travel Host	John Miller	VK3DJM
ITU Conference & study group	Gilbert Hughes	VK1GH
	David Wardlaw	VK3ADW
	Keith Malcolm	VK1ZKM
QSL Curator	Ken Matchett	VK3TL
QSL Bureau & VK9/0 QSL Manager	Neil Penfold	VK6NE
Repeater	Peter Mill	VK3ZPP
Webpage	Colin Thompson	VK2TRC
WICEN	Ewan McLeod	VK4ERM

Editorial Comment

Peter Freeman VK3KAI

Almost at the end of February and weather continues to be a hot topic. In Gippsland and North-Eastern Victoria, the large "Great Divide" fires appear to be out and the clean up has commenced. Other states have also had significant fires. Unfortunately, the southern states face at least another month of high fire danger, with much of the country looking extremely dry. On the other hand, we are seeing extremely high rainfalls in the north, as the wet season progresses.

These weather extremes present challenges for all, including amateurs. The more extreme events are likely to cause significant damage via either fire or flood and it is possible that emergency communications support may be required. This issue has reports on such involvement – one on recent WICEN involvement in the Great Divide fires and another on the fortieth anniversary of amateur involvement in support of the fight against fire in Tasmania in 1967. As the Scouts say, we should all "Be Prepared".

AGM & Elections

With this issue is a comprehensive set of information and reports for the Annual General Meeting, to be held in Parkes in May. Members will need to consider the reports. You can still be involved in the meeting, even if not physically present, through an open or a directed proxy.

I understand that an election for Directors is to be held. I urge members to consider carefully how they exercise their vote. How do you decide who should receive your support? I suggest that we should be looking for those that have the *time, skills and experience* to contribute to the WIA. These attributes must be present in a candidate, if we are to elect him or her to the Board. It is all too easy to simply consider geographical location or area of interest. But in the long run, will this produce a Director who will give maximum benefit to the hobby?

Reviews

The Publications Committee is attempting to plan out a series of equipment reviews. Our approach may be a little different to those that we have conducted in the past – we may not necessarily conduct a suite of technical measurements, as modern methods tend to produce a product that meets the claimed specifications. As well as considering transceivers, we intend to consider other items such as antenna "tuners" and other station accessories. If you have any suggestions, advise the committee through its Secretary, Ernie Walls VK3FM, at armag@wia.org.au

In this issue

A large part of this issue is devoted to an article on the on-line IPS Propagation Prediction Tools, by Stephen Arnold VK2SJA. Stephen has put in considerable effort and received significant assistance from staff at the IPS. I reinforce our collective thanks for the assistance freely given. While he has good computer skills, Stephen was a newcomer to the on-line prediction tools. I trust that those of you who need propagation predictions find the article useful in exploring these excellent on-line tools. Many local libraries provide free access to the internet; with a little effort, you can have an up to date set of predictions using the latest data.

I also thank Roger Harrison VK2ZRH for supplying the excellent cover photograph and description, in response to my approach for suggestions for something suitable to support Stephen's article. As noted elsewhere, the photo was sourced from NASA.

Neil Sandford VK2EI describes a simple method for the production of printed circuit boards for that next project. Paul Stampton VK3IH presents a review of the latest edition of *Radio Theory Handbook* by Fred Swainston VK3DAC. Among the reports from our regular club contributors and columnists, we see the results for the major VHF/UHF contests for the year – the Ross Hull Memorial VHF/UHF Contest and the Summer VHF/UHF Field Day. I must say that I was very pleasantly surprised with the outcome of the Ross Hull – you never know what can happen if you submit your log as an entry!

Do not forget the John Moyle Memorial National Field Day on March 17 and 18 – go out somewhere and have some radio fun, even if only for a few hours. Then take the small extra effort to complete the entry for the Contest and submit your information to Denis Johnstone VK4AIG/VK3ZUX.

73, Peter VK3KAI

Michael Owen VK3KI

The year ahead

I know that this looks like a heading for the first edition in a year, not the second, but last month I wanted to tell you about our new brochure.

I think that 2007 will be a critical year for the WIA.

In the formal Report of the Directors for the Annual General Meeting in early May, enclosed with this issue of Amateur Radio, together with the other documents for the AGM, the Directors said this:

"The retention of the right to manage Amateur examinations is of critical importance to the Institute. If it loses that right, a substantial resource, including the resource of so many people who have been qualified as WIA Assessors, will be lost, and a significant cash flow will disappear, and the ability of the Institute to employ adequate staff seriously diminished."

As is also pointed out in the formal Report, the Board believes that the ACMA will seek a single body to manage amateur examinations, certificates and callsigns, as set out in the ACA's "Outcomes of the Review of Amateur Service Regulation", May 2004 (the "Outcomes Paper").

We are lucky that we have had the time to establish a totally new examination system to meet the requirements of the new Amateur qualification requirements, particularly to assess the practical element.

We are lucky that we have had the support of so many people who were prepared to be qualified by our RTO, giving us the ability to assess candidates across the country. We are lucky that we have had the support of an RTO completely understanding the Amateur environment and requirements.

But do not for one second under estimate the problem we face. Somehow, we must be able to put together a workable proposition, both contractually and financially to provide the services that the ACMA seeks.

We must be able to meet the needs of the other aspects of the outsourcing, including, I suspect, investing in specialist help, as we need it. We have to deal with the highly structured Commonwealth requirements for this kind of contract. We have to recognise the need for total professionalism in everything we do, be it conducting an assessment, reacting to a potential candidate or putting together a proposal as to how the WIA can deliver the services required by the ACMA, the main one (in our eyes) already properly delivered, the others, well we have to develop that.

If we fail, what will the WIA be?

That is, for me, the major challenge of the year ahead. It is the challenge that led some of us to believe that we needed a restructured WIA to face the future. But, while we have the structure, it still depends on the skills and experience of those representing the WIA.

Another new thing ...

This year, we have the third Annual General Meeting since the restructure. As you will see from the material enclosed with AR, the Board has decided to hold it at Parkes, in New South Wales. Our first AGM was in Canberra, our second in Sydney, so why retreat to the outback?

Parkes is the site for Australia's prime Radio Telescope facility and special technical tours have been arranged so that we can see some of the frontline developments in signal collection and processing. In addition, let us show that we are not completely city-bound, and find out whether we enjoy the support of our country members.

I have been impressed by the many people who have expressed their support for this venue. I believe that, with a good venue, reasonable accommodation and a very interesting tour, our decision to try something really new is fully justified.

I do hope that this AGM will be our best yet, so please do think carefully about making this a special weekend.

The other major event this year is the ITU's World Radiocommunications Conference (WRC-07) in Geneva, for four weeks around November.

In our brochure promoting the WIA, we give first priority to the WIA's advocacy role, and the WRC-07 really is "your subscriptions at work".

Two of the WRC-07 agenda items directly affect the Amateur Service and a number of other items may also affect amateurs. The major items are the proposal for a low frequency secondary allocation from 135.7 - 137.8 kHz and the still unsatisfied requirement for a 300 kHz world-wide harmonised allocation at 7 MHz. There is also the possibility of a secondary allocation for emergency communications around 5 MHz that has emerged in some recent WRC-07 preparatory documents, which could perhaps become an agenda item for a future Conference.

Through its two representatives, Keith Malcolm VK1ZKM and David Wardlaw VK3ADW, the WIA has been fully involved in the many stages of the Australian preparation for the WRC, and Keith will be a member of the Australian delegation to the WRC.

I also believe that this year, perhaps even the first half of the year, will at last see the final steps in giving effect to the Outcomes Paper. I expect that Australia will participate in the European Conference of Postal and Telecommunications Administrations (CEPT) licensing system, enabling amateurs to operate during short visits to CEPT countries without obtaining an individual temporary licence, and at the same time issuing a Class licence for amateurs from CEPT counties visiting Australia.

As well, the other changes to the Australian Amateur LCD will come into effect, hopefully clarifying some matters and making internet linked radio systems easier.

I believe that, despite the need to persuade ACMA that WIA should continue to manage Amateur examinations, the WIA Examination Service and the WIA Assessors will continue to provide an invaluable service, and that we have every opportunity to attract and welcome at least another thousand new amateurs during the year.

Despite all the challenges, and the critical challenge I first referred to, I believe that amateur radio and the WIA has every opportunity to grow and prosper during the year ahead.

ar

WIA news

WIA seeks experimental access around 500 kHz

The WIA has applied to ACMA for experimental access to a small band of frequencies near 500 kHz.

Amateur radio operators in the United States, Sweden and Germany have recently been granted experimental access to frequencies just above 500 kHz. Applications for access to this band have also been lodged by the NZART and the RSGB.

Inquiries last year to ascertain if there was an interest in a similar allocation in Australia met with an enthusiastic response said WIA Director, Glenn Dunstan VK4DU.

The WIA submission requests a temporary/experimental MF amateur allocation be made for the frequency range 505-515 kHz. *This proposed allocation places us above the guard band around the distress and safety channel at 500 kHz, and lines up with the current amateur MF allocations in Europe and the US*, Glenn said.

The limited spectrum available precludes the use of wide band telephony type modes. The WIA submission proposes a maximum necessary bandwidth of 200 Hz, to limit operation to CW and slow speed robust data modes, such as PSK31. This is the practice adopted in the current experimental MF amateur band in Europe and the US.

The WIA also proposed that because of the technical challenges involved, the MF band be only made available to Advanced class amateur stations.

It is also proposed that normal amateur output power limits be used.

The WIA recognises that the former marine distress and calling frequency of 500 kHz remains so designated in the International Radio Regulations (guard band 495-505 kHz), and that this status will not be changed until WRC-11 at the earliest.

ACMA changes high power EME conditions

The WIA Board is aware that many amateurs are not happy with the transmitter power limits for Australian amateurs.

WIA President, Michael Owen VK3KI has announced that the WIA had been advised of a change in ACMA policy that will affect those engaged in EME communications.

Amateur operation using a transmitter power greater than that ordinarily allowed is authorised by ACMA, on a case-by-case basis, only for earth-moon-earth experiments above 50 MHz.

Previously the ACMA policy required that amateur stations so authorised be assessed for compliance with the EMR requirements by persons accredited by the National Association of Testing Authorities (NATA).

Following representations by the WIA and individual amateurs, that requirement has now been repealed. It is now the responsibility of the amateur to comply with the relevant Determination.

The WIA has been advised by ACMA that in order to highlight the importance of complying with EMR requirements, the following Advisory Note will be applied to all Amateur licences:

Amateur stations have the potential to generate high levels of electromagnetic emissions. Compliance with the Radiocommunications Licence Conditions (Apparatus Licence) Determination 2003 will ensure that these emissions do not exceed safe levels for general public exposure.

Information about high power operation may be found in the 'Amateur Licence Information Paper' on the ACMA website.

A copy of the official letter from ACMA is on the WIA website.

New BPL interference report form

The WIA has developed a new downloadable form for use when lodging a formal BPL interference complaint with ACMA, ensuring that all relevant information is presented in the correct format.

Amateur radio terminology is often different from that used professionally. For instance, ACMA staff expect to see received signal strength readings in dBuV (decibels above or below one microvolt), not S-units. Although reporting signal strength in S-units is the accepted practice in amateur radio, it is not used by any other radiocommunications service and it is notoriously inaccurate.

The new form, which has been developed by Peter Young VK3MV, attempts to overcome such difficulties and should be used in conjunction with the WIA's BPL Interference Advisory Service.

The form is downloadable from the WIA website http://www.wia.org.au/

WIA lodges cost recovery submission

Just before Christmas, ACMA placed on its website a paper "Cost recovery arrangements for services provided by ACMA", calling for comment by 1 February 2007.

A 15% increase in the non-tax component of amateur licence fees was proposed, as well as substantial increases in the cost of amateur examinations conducted by ACMA.

As a number of matters in the paper were not clear, WIA President Michael Owen VK3KI and Peter Young VK3MV sought a meeting with ACMA officers and on Thursday 18 January 2007 they attended a videoconference with ACMA officers in Sydney and Canberra.

On 29 January 2007, the WIA lodged a submission in response to the paper and the following are some extracts from that submission:

There are, however, a number of assumptions underlying the proposed fees for licence issue and renewal that the WIA seeks further clarification. The discussion paper refers to an amortisation period for amateur licences of seven years as the average period that an amateur licence is held. The WIA believes this period, particularly for the Advanced Licence, to be understated and suggests that the amortisation period be reassessed in light of the fact that this assumption has not been tested for some ten years.

The WIA raised the opportunity to renew apparatus licences for periods up to five years and thus provide a saving in administrative costs. Information on multi-year licences is missing on the offer to renew apparatus licence notice.

The other issue of concern to the WIA is the significant leap in costs associated with ACMA administered amateur examinations. The WIA understands that ACMA does not normally administer amateur examinations itself, though it could administer special examinations if necessary. As you will be aware, the WIA is continuing to develop protocols to administer special examinations, and it is our understanding that it would be only in unusual circumstances that ACMA would, in fact, administer such examinations.

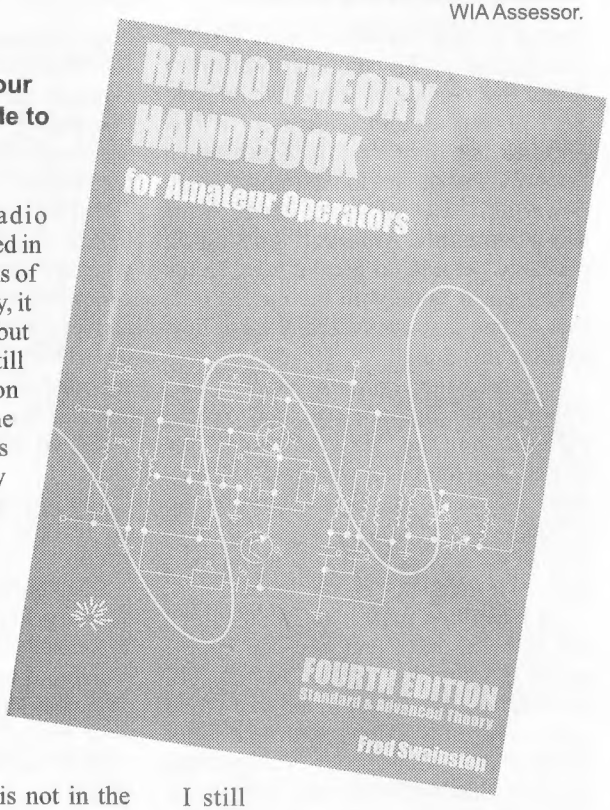
ar

Review of *Fred Swainston's* Radio Theory Handbook

Fourth Edition

Paul Stampton VK3IH,
WIA Assessor.

It would be easy to make this article very short: If you are a Foundation or Standard Call and you want to get more out of your hobby, buy this book, study it, take the examination and upgrade to more power, bands and modes!



However, I should probably flesh out the nature of the book and its suitability for the sometimes overwhelming task of upgrading or obtaining one of the two higher grades of licence in the new licensing structure.

Perhaps I should acknowledge that a much earlier version of this book was instrumental in my success in the then AOCP examination, so I was already positively predisposed towards the 'handbook' before the fourth edition arrived on my desk for review!

Those Foundation Licensees who have used the excellent text "The Foundation Licence Manual" produced by the WIA will instantly recognize that there are several fundamental differences between the two books:

The Foundation Manual is designed to provide basic radio information in an easy to understand manner that is appealing to people with little or no knowledge of Amateur Radio. It does this through modern presentation and the use of colour diagrams, photographs and simple, easy to understand text. The Swainston text has a different role to perform. It is required to detail the entire area of knowledge required to achieve the level of theory required for the much harder Standard and Advanced levels. To do this in the same manner as the Foundation Manual would require a voluminous work and is largely unnecessary, as the Swainston text doesn't require the same general audience appeal. Personally, I have written a smaller distance learning manual ('Plant Identification') for the University of Melbourne and can appreciate the time and effort required to create this sort of work on this scale.

Information in the Radio Theory Handbook is presented in chapters based on the sections of the ACMA Syllabus. Actually, it is based on the old syllabus but the vast majority of it is still relevant, and a comment on the text's jacket highlights the minimal extra information's presence. The required theory is assisted by simple drawings and diagrams to help with the reader's understanding. It does this very well, with little in the way of diversion or distraction. A short chapter on practical work is a good taster for homebrewing, a fundamental aspect of the "Ham radio" tradition that is not in the exam syllabus. Each chapter has a short test section that helps you review your study, and an appendix has two Standard and two Advanced theory papers.

Two new appendices cross reference the Advanced and Standard syllabi with the relevant sections of the book. This enables you to go through and highlight those sections that apply to the Standard Licence only. This is a little long winded and perhaps highlights the fact that the text is much easier to navigate and use if you are attempting the Advanced Licence. Personally, I found that studying for the old Novice level (the approximate equivalent of the new Standard Licencse) was easier and less daunting from one of the now old, Novice licence texts that were once available at outlets around Australia and can still be found at hamfests.

I still have my copy of the Radio Theory Handbook and I have often found myself re-reading sections before trying to expand my knowledge via other texts or the internet. I find that while it is not a bedtime read, it helps to refresh your knowledge from the original source!

In short, I think that if you are thinking of attempting, particularly the Advanced Licence examination, you should buy this book, study it, take the examination and upgrade to more power, bands and modes! Good luck with your studies.

Note: Fred Swainston's Radio Theory Handbook Fourth Edition is published by ElecTrain. The book is available from the WIA Bookshop or orders can be placed via the publisher on phone (03) 9417 0700.

ar

Ionospheric Prediction Service (IPS) Tools

Stephen Arnold VK2SJA,
vk2sja@wia.org.au

Some time back, while "surfing" the Internet, I stumbled across a set of free on-line web tools for doing High Frequency (HF) ionospheric path predictions. These tools were provided by none other than our own Australian IPS Radio and Space Services.

Being a new Amateur and with a background in the computer industry, I found this service of particular interest. So I played around with it for a few minutes but didn't really make much headway. The service looked tantalizingly powerful. I felt that in the hands of the knowledgeable Amateur, one could probably get it to do great things. At the time I put it aside with the mental note that – "one day, I must really learn how to drive this thing!"

Recently the *Amateur Radio* (AR) Publications Committee decided to cease publication of the "HF Predictions", the information source for which was the very same IPS Radio and Space Services. So I thought that it may be a good time to re-visit these on-line HF prediction tools and see if I couldn't master them.

So I enrolled myself on what turned out to be an excellent one-day course at the IPS covering the Ionosphere, HF propagation and the use of the web-based prediction tools. Along with one other amateur and a whole bunch of chaps from the Australian Air Force, what I learnt that day and have discovered along the way since, I now present here in the form of a "how-to" article, in the hope that it may be of some benefit and interest to fellow amateur radio operators.

The IPS in "IPS Radio and Space Services" stands for the Ionospheric Prediction Service and for the sake of brevity I'll simply refer to this Australian Government Agency as IPS from here on. The IPS is also referred to as the "Australian Space Weather Agency" and this name is worth pausing to consider for a moment. While there is real and exacting science behind HF propagation predictions, Space Weather, much like the more urban terrestrial weather forecasts, is an exercise in scientific probabilities. Sometimes despite our best efforts, mathematical models and available data, the forecast is quite simply wrong. This does not mean we shouldn't use the HF Predictions. Much like the weather forecast, they get it right far more often than wrong. But all the same, it is well to appreciate that a prediction is just that, a prediction.

Before we go any further, I would like to encourage you to grab a cup of your favourite beverage and turn on the computer. While I hope that this article conveys some understanding on its own, the web tools that I am about to discuss are much more readily understood if you actually use them whilst reading along. With that said, let's look at the IPS Web tools.

The internet web site maintained by the IPS can be found at http://www.ips.gov.au

This site contains a wealth of information but the area of most interest to us is "HF Systems" which is a link located in the horizontal menu at the very top of the page. You can go there directly via http://www.ips.gov.au/HF_Systems .

Once you have reached this page, you should see seven little square event boxes. These are like the Weather Bureau's storm warnings. Here they deal with the Ionosphere. Before proceeding to use the tools, it is well to note the condition of these seven little boxes. The four upper boxes under "HF Propagation" are warnings and alerts of relevance to HF systems. Under normal conditions they are all green. If not, clicking on the boxes will provide specifics. The three lower boxes indicate the present condition of the ionosphere in the various regions. If they look predominantly green in colour then the conditions that exist right now are very close to those expected for the time of day and for the time of year. If they contain any large regions of colour other than green then conditions are substantially different from those expected. You can still use the prediction tools in either case as you can choose to link them to "live" data matching the conditions that are apparent right now. It is important to be aware of any exceptional circumstances, as this may change the way in which we use the tools or perhaps even our decision to get on-air today.

So where are these on-line HF prediction tools? Looking at the "HF Systems" web page, there is a vertical menu to the left hand side of the page. At the very bottom you will see an entry called "Online tools" and just under that a hyper-link to "Prediction Tools". Selecting this should take you to URL http://www.ips.gov.au/HF_Systems/7/1 .

On this web page we can see that the IPS offer no less than six different on-line prediction tools. Listed here in the same order as displayed on the Web page:

1. HAP Prediction Display
2. Min-Max (Area of Coverage) HAP Prediction Display
3. URSL - Upper, Recommended, Secondary and Lower - HF Frequency Prediction
4. GRAFEX Prediction Display
5. Air Route Chart
6. RAAF Air Route Chart

(Authors note: During the production of this article a 7th tool called LAMP for Local Area Mobile Prediction was added. Nothing about the Internet ever remains static! Due to time constraints, I have not been able to cover this tool).

The first thing I had to grapple with was which tool to use? What are the differences between them? Well, tools five and six on this list deal with Aircraft, where one station is a fixed ground station but the other is a mobile aeroplane. I'll not be covering these tools as they are of only passing interest to most amateurs. Unless of course you happen to be one of the many amateurs with a pilot's licence. In this case, these tools may be of considerable interest. I'll leave it to you to investigate them.

That leaves us with the first four tools

to deal with. These four tools can be broadly grouped into two groups of two. The first two tools "HAP" and "Min-Max HAP" are both HF "Area" Prediction (HAP) tools. For example, you would use these tools if you were interested in communicating with another station in say, Canada, but did not particularly care where in Canada that station was located. Both of these tools operate by drawing the "Area" of your desired target communications end-point onto a map of the World. Apart from that they present similar information in different ways. We shall look at them in more detail shortly.

The other two tools are "Point-to-Point" tools, useful where the precise latitude and longitude is known for both communicating stations. I should point out quickly that within the tools there is a very good utility for finding the latitude and longitude of any well known city or town around the world. So in practice you can typically enter the name of your transmitter location and the name of the town which marks the end of your communication circuit and the tools can supply the required latitude and longitude.

The first tool we shall look at is the HF Area Prediction tool or HAP. We shall cover the use of this tool in some detail. Fortunately, most of the specifics of driving the user interface to these tools are applicable across all of the tools. So if we learn to use one thoroughly, only small incremental changes in knowledge and technique are required to operate all of the other tools.

Click on the HAP Prediction Display link and it should open a new browser window and take you to http://www.ips.gov.au/HF_Systems/7/1/1 . You could of course enter this URL into the browser directly and even bookmark it should you wish.

At this point, you should see the tool load and after a short while a black map of the world is displayed immediately below a series of buttons and text box fields. (If you don't see the black map of the World then you probably need to download and install a copy of the Java Runtime Environment. See http://www.java.com/en/download/index.jsp for more information). At this stage you might want to maximise this new browser window so that it fills the entire screen. First I would like to draw your attention to the most important button of all, the "Help" button. This button is located in all of the tools. Clicking this button will open another window containing scrollable help information for the tool in question. While somewhat succinct and laden with acronyms, it is nonetheless very helpful. Most of this article was prepared just by dutifully reading and understanding the content of the help screens. As for any strange acronyms, they can be found explained at other parts of the web site. In particular, a *Glossary of Solar Terrestrial Terms* can be found by clicking on "Educational" in the main menu across the top.

Alright, let's get down to it and use the HAP tool.

Locate the drop down box with the default option of "180deg centre". Drop this box down with the arrow alongside and you should see only two options. The default "180 deg centre" and a "0 deg centre". Select the "0 deg centre" and carefully watch the world map. This option simply selects where the centre-line of the map will be, at either 180 degrees of longitude (default) or at 0 degrees of longitude. Which you select is a matter of personal preference and largely dependent on the area you wish to select for making your end-point for communications. Selecting the entire sub-continent of Africa is impossible unless you switch the map to a 0 degree centre. Now change it back to the "180 deg centre" default and observe the map change again.

I mention this option up front because changing the map view resets other form properties such as your "Area" selection. So if you are going to change the longitude centre-line of the map projection, you are best off doing this first before entering any other data.

Having set the map projection, the next thing to do is to tell the tool the location of our transmitting station, called the "Base" by the tools. This can be done in one of two ways, either just by pointing the mouse to a position on the World map and clicking or by using the "Base Locator" tool.

Let's look at the first option, using the mouse. Simply move the mouse pointer over the map of the world till it is pointing at your transmitter location. As you move the mouse pointer around inside the black map of the world note that the selected latitude and longitude is displayed in a white message box just at the top of the map on the far right hand side. Once you have the pointer where you want it you can "left-click" the mouse. The map is now updated with some text saying BASE: followed by the latitude and longitude. In addition some text containing the latitude and longitude is also entered into the first data entry field alongside the caption "Base:"

If you make an error or wish to change your mind about where this base should be then you may press the "Clear" button but be aware this clears all fields and not just the base location.

The other way to locate your base and perhaps an easier way at that is to use the Base Locator Tool. Click on the button "Base Locator". A new dialogue window opens containing a Name text field, and two buttons, search and clear. I did discover that on occasion when this window is opened it is not large enough by default to display both buttons. If you are not seeing both search and clear buttons then resize the window by clicking on the edge and dragging it to enlarge it.

In the text box entitled "Name", enter the name of your home town or location. For example my QTH is Nowra, so I enter "Nowra" and press the "Search" button. A database lookup occurs and the latitude and longitude for this location is now displayed. Back on the browser window containing the map of the World locate the button called "Load Base". Click this button and two things will happen. First the Base location will be loaded into the HAP tool updating the text field "Base". Secondly, the "Locate Base" dialogue will close.

You can use the Base Locator tool over and over. Just press the clear button to clear any text. Enter a new location and press search again. But don't forget to press the "Load Base" button after doing your final search so that you correctly load this location into the HAP tool.

The next thing we should probably do is define the target area for our communications. As an example let's say we want to communicate with New Zealand. Position the mouse point at the top left of New Zealand on the world map and then holding the left mouse button down drag the mouse pointer down and to the right. This drag-n-drop operation will draw a rectangular box around our target Area of New Zealand. This action may take a little practice but you can repeat the process over and over until you get the box exactly where you want it to be.

We have now set the two end points of our communications circuit: our

transmitter base by latitude and longitude using the Map or Base Locator tools, and the area of desired communication using mouse drag-n-drop on the world map. We should now set all the possible HF frequencies that we may wish to use or are able to use.

Up to ten different frequencies may be entered into the fields "Freq1" through to "Freq9" and they are entered in whole kilohertz (kHz). If you had a specific frequency or set of frequencies in mind then you could just enter those frequencies but for most amateurs it is probably much easier to use the default set of amateur frequencies.

Locate the drop-down box which by default contains the text "Arbitrary". Use the down arrow alongside this box to see the options. There are only two and they are "Arbitrary" and "Amateur". If we select "Amateur" then the Frequency boxes one through nine are automatically populated with the centre frequency for each of the HF amateur bands (as per Australian regulations). The tool is now ready to produce a set of HF amateur band predictions.

Next we set the day, month and year fields to the particular day that you want your prediction for. Note that the program defaults these fields to today so if you are interested in a prediction for the current day you can leave them as is.

Finally we come to the all important "T-index". What is a "T-index"? In broad terms it is a numerical index that tells us what the current level of ionospheric support is for HF radio propagation. While in simplistic terms, it is likely that the "T-Index" will be proportional to the number of sun-spots (the greater the number of sun-spots, the higher the "T-Index"), the "T-Index" itself is not actually derived from the sun-spot count.

The value for the "T-Index" is actually calculated by the IPS using data obtained from its own extensive data collection network and through data exchange with similar overseas organizations.

The "T-Index" is an ionospheric index and is derived from the measurement of the level of ionospheric support for HF systems using ionosondes. These ionosondes regularly sound or measure the ionosphere by transmitting pulses of radio frequency energy upwards. The received signal echoes tell us much about the current state of the ionosphere.

More information regarding the "T-index" may be found in the "T Index FAQ", which is located under "Educational" – "Other Topics"– "Radio Communications" at http://www.ips.gov.au/Educational/5/3 . This same location also has an excellent tutorial called "Introduction to HF Radio Propagation". Well worth a look.

If we click on the down arrow of the "T-Index" drop-down menu we can see that there are seven choices for the "T-Index" and they are:

3 year Warranty on Australian Icom Amateur

Visit us at www.gccomm.com.au for new product updates

G&C COMMUNICATIONS

See us for CAR Stereo too! ~ 'Cranbourne Car Sound'

Established over 15 years ago, G&C Communications' owner and staff are Amateur/Qualified Radio Technicians and specialise in radio communications and car sound systems, providing service and support to customers and Australian businesses Australia wide.

We are Authorised Dealers for most Major Brands. We stock Amateur, CB (27 MHz and UHF), Long range HF, Scanner/receivers, Commercial two-way, Car sound/vision and GPS navigation systems.

State of the art products from leading communications and entertainment manufacturers.

Vertex Standard — Yaesu — Icom — Kenwood — GME — Garmin — Uniden — RFi — ZCG
TETemtron — MFJ — Diamond — Comet — Barrett — Clarion — Pioneer — Blaupunkt

- Two Way Radio Systems
- Commercial Repeater Networks
- HF/UHF CB Radios
- Marine Radio Electronics
- Service & Installations
- Car Sound Systems
- GPS Navigation
- HF Outback Radios
- Fish Finder/Plotters
- Phone Systems

207 High St. Cranbourne VIC 3977
Ph: 03 5996 3298 Fax: 03 5995 0184
Email: gccomm@bigpond.net.au
www.gccomm.com.au

```
Input Data:
Date: 23 8 2006
Base Name: NOWRA  Base latitude: -34  Base longitude: 150
Region NW latitude: -35 Region NW longitude: 165  (rounded)
Number of Frequencies: 9
     1838 3650 7150 10125 14175
     18118 21225 24940 28850 -1

Data is being Processed.
Execution time varies with machine load, and area of HAP chart.

T index used for prediction: 0006
```

Figure 1: The Initial output screen from the IPS system using the HAP Prediction Display tool

Tmonth	monthly forecast T index	**Tnh**	real time Northern Hemisphere T index	**Tnz**	real time New Zealand T index
Tday	daily forecast T index (southern hemisphere)	**Tsh**	real time Southern Hemisphere T index	**Tant**	real time Antarctic region T index
Taus	real time Australian region T index				

TET-EMTRON

Antenna Manufacturers

New

Tet-Emtron Vertical Range

New Tet-Emtron Vertical Range Features

- **All Aluminium with Stainless steel hardware.**
- **No adjustment needed to main antenna.**
- **Light.**
- **Free standing—no intrusive guy wires.**
- **1 kW PEP power rating.**
- **Can be ground mounted or elevated.**

The new TET-Emtron Vertical range is designed with ease of use in mind. Tuning is done by the radials when the antenna is in its final position (where possible).The radials can either lay on the ground, be buried or hang from the elevated antenna. The antenna comes with a set of radials that has a resonant radial for each band. Further sets can be ordered from TET-Emtron if desired.

See the web site for more info and a complete dealer list.

40 Blackburn Street
STRATFORD
Victoria 3862 AUSTRALIA

Ph: 61 3 5145 6179
Fax: 61 3 5145 6821
ABN: 87404541761

www.tet-emtron.com
Email: rawmar@hotkey.net.au

Antenna	TEV-4	TEV-3	TEV-3 Warc
FREQUENCY	7, 14, 21, 28 MHz	14, 21, 28 MHz	10, 18, 24 MHz
ELEMENT HEIGHT	4090 mm	3800 mm	5025 mm
FEED IMPEDANCE	50 ohm	50 ohm	50 ohm
Max. RADIAL LENGTH	10.7 metres	5 metres	7.5 metres
SWR	1.5 or less	1.5 or less	1.5 or less
POWER RATING	1 kW	1 kW	1 kW

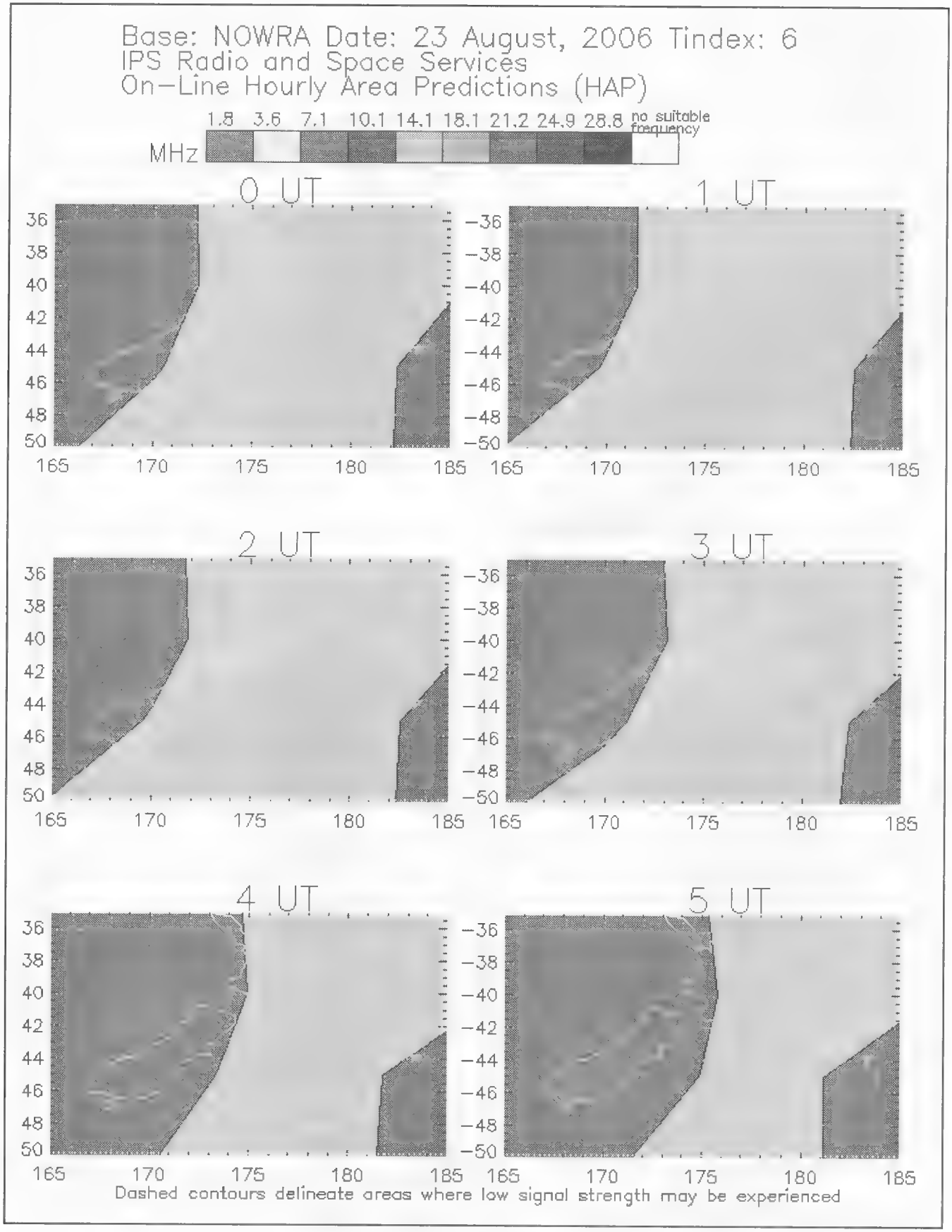

Base: NOWRA Date: 23 August, 2006 Tindex: 6
IPS Radio and Space Services
On-Line Hourly Area Predictions (HAP)
MHz
1.8 3.6 7.1 10.1 14.1 18.1 21.2 24.9 28.8
no suitable frequency
0 UT
1 UT
2 UT
3 UT
4 UT
5 UT
36 38 40 42 44 46 48 50
-36 -38 -40 -42 -44 -46 -48 -50
165 170 175 180 185
Dashed contours delineate areas where low signal strength may be experienced

Figure 2: HAP tool output

So which of the seven possible values for "T-Index" should we be using? That depends on what we are trying to do. Consider that the first two values for T-Index, the Tmonth and Tday are forecast or predicted values. All the remaining fields are real time, actual live values of T-Index for various world zones or hemispheres.

If we were trying to do a meaningful prediction for a scheduled communication which is to take place "next month" then the Tmonth value would be most relevant. However if we are doing a prediction for the current day then a greater level of accuracy may be achieved by using either the Tday value or one of the other "live" real time values for T-Index.

The Tday forecast is a daily forecast prediction issued by the IPS. Just as the long-range weather forecast is likely to be much less accurate than the weather bureau's prediction for tomorrow so it is with the monthly vs. daily IPS forecast. The last remaining question is why use Tday instead of one of the actual "live" data values? Assuming that we are trying to make a prediction for the current day then it is always better to use one of the "live" data T-Indexes. In fact the only reason for not using the "live" data at any particular moment would be if it happened to be unavailable or off-line, in which case you would revert to using the Tday or Tmonth values.

If we have decided to use "live" real-time data for T-Index then the choice is easy. Just pick the zone in which your transmitter lives. Most of us probably live in Australia so we would use the current Taus value. Or is it that easy?

What if you are communicating from one zone or hemisphere to another, say from the Southern Hemisphere to the Northern Hemisphere? In such a case for the most accurate prediction we should always check the T-Index values for both zones and use whichever is the "lowest" of the T-Index value. For example, if I wish to talk to Canada from Australia I would check both the Australian Taus index and then the Northern Hemisphere Tnh index and then use the lower of these two values.

One final word regarding T-Index values: Normal values are between -50 and +200. If you see a value of 999 being used at any point, what this is really saying is that there is "no-data" available for that particular "T-Index". Try changing your year field to 3006 and you can see this in action. The tools won't let you do a prediction with the T-Index set to 999. It knows this means "no-data". If one of the seven T-Index values above gives you 999 then you will have to choose another one.

Finally it should be noted that if you just happened to know what the T-Index value is, or is going to be then you can simply enter that number into the T-Index field. An unlikely event perhaps, but you may wish to directly enter values here if you are doing some "what if" type modelling.

Now we have pre-loaded all the required data fields so that the program can do a prediction. We have:

1. Set our base location using the Base Locator tool or mouse on map.
2. Set the "Area" of the desired end-path of our communications circuit using drag-n-drop on the map.
3. Entered the desired frequencies in kHz that we may be able to use (probably the default Amateur set).
4. Told the program the day or date when we intend to communicate.
5. Then set the all important ionospheric indicator the T-Index to an appropriate value for the time of our communication.

With all this information loaded we can now press the "Do Pred" or "Do Prediction" button and take a look at the results.

If you press the "Do Pred" and nothing appears to happen then we may have forgotten to set one of the required pieces of information listed above (another possibility is that your browser is blocking pop-ups, which will need to be enabled for the IPS web site). Look carefully for a text error message which will be displayed immediately above the map, right justified. You may see something like:

> "Not sent! tindex missing/out of range (-50 to 200): -999.

This would indicate that we have not set a valid T-Index for the prediction. Or perhaps:

> "Not sent! Drag area of box in display below",

which is trying to tell us that we have not defined the area that we wish to communicate with using the mouse left click and drag method on the map.

Assuming that all values are set correctly then the data is sent to the IPS computer systems and the results are then calculated and returned a few seconds later to your web browser. A new browser

```
URSL Input Data:
Date: 23 8 2006
Chart Name: NOWRA-WELLINGTON
T-index: -3
Latitude1: -34.88 Longitude1: 150.6
Latitude2: -41.3 Longitude1: 174.77
Number of Frequencies: 9
    1.8 3.6 7.2 10.1 14.2
    18.1 21.2 24.9 28.8 -1

Processing data....Please wait

ADDRESS NO. 1234
URSL - RECOMMENDED FREQUENCIES FOR HF COMMUNICATIONS FOR CIRCUITS LISTED                    23 August, 2006

**UNITS: FREQUENCY - MHZ, TIME - UT , DISTANCE - KMS          R AND S ARE RECOMMENDED AND SECONDARY FREQUENCIES**
                                                               U AND L ARE UPPER AND LOWER USABLE FREQUENCIES**
        VERTICAL ANGLE(S) - DEGREES                             NO SUITABLE FREQUENCY INDICATED BY ZERO**

NAME                  DISTANCE              UT   00 01 02 03 04  05 06 07 08 09  10 11 12 13 14  15 16 17 18 19  20 21 22 23 24
NOWRA-WELLINGTON          2223               U  14 14 14 14 14  14 10 10  7  7   7  7  3  3  3   3  3  3  3  3   7 10 10 10 14
                                             R  14 14 14 10 10  10 10  7  3  3   3  3  3  3  3   3  3  3  3  3   7 10 10 10 14
       1F  6-10 2F 19-26 1E  0 2E  6         S  10 10 10  7  7   7  7  3  1  1   1  1  1  1  1   1  1  1  1  1   3  7  7  7 10
                                             L   7  7  7  7  7   7  7  1  1  1   1  1  1  1  1   1  1  1  1  1   3  7  7  7  7
 Prepared by IPS RADIO AND SPACE SERVICES, Sydney
 PO Box 1386, Haymarket NSW 1240, Australia
```

Figure 3: URSL tool output

window opens up with a text header that will look something like Figure 1.

This simply echoes the data I used for the prediction. Under this text banner we have four hyperlinks that will take us to four different web map pages. These four pages break the day up into four groups of six hours to cover a full 24 hour period. Remember the results are returned in "Universal Time" or UTC not your local time. The links will look like this:

Click here for HAP Result Page 1 (00-05UT)

Click here for HAP Result Page 2 (06-11UT)

Click here for HAP Result Page 3 (12-17UT)

Click here for HAP Result Page 4 (18-23UT)

Which page to look at?

Let us assume that I wish to talk to someone in New Zealand and I wish to do it now. Current time as I write this is 11:05 AM or 11:05 hrs local and we happen to be +10 hours in front of UTC. So adjusting our time back to UTC would be 11:05 – 10:00 = 1:05 hrs UTC. So we now select the hyper-link that contains this hourly segment; which happens to be the first one which contains the 6 hourly period from 00:00 UT to the end of the 05:00's or 05:59. The next map starts at 06:00.

In our example the six hourly maps returned by this particular web page looked like Figure 2.

Each of the maps above represents a period of one hour. The map we are interested in is labelled 1 UT which is the hourly period from 1:00 to 1:59 UT. Above the six maps we can see a colour code legend that matches the frequencies we selected for prediction which corresponds to the 9 HF Amateur bands. At a glance I can clearly see that to talk to New Zealand right now I should

GRAFEX Input Data:

```
Date: 23 8 2006
Tx Name: NOWRA  Tx latitude: -34.88  Tx longitude: 150.6
Rx Name: WELLINGTON  Rx latitude: -41.3  Rx longitude: 174.77
T-index: -1

IPS GRAFEX HF FREQUENCY PREDICTIONS                          ADDRESS NO. 1234
Circuit: NOWRA      WELLINGTON          Date:  23 August, 2006     T-index:   0
Bearings: 116 281                       Distance: 2223 km
First Mode        |--------F r e q u e n c y  (MHz)---------|       Second Mode
1F 6-10  1E 0     1   5   10    15   20    25   30    35   40    2F 19-26 2E 6
UT  OWF EMUF  ALF |...|....| ....|....| ....|....| ....|....|  OWF EMUF  ALF UT
00 14.5  0.0  9.3      ASSXX XFFF.                               8.3 11.5  5.5 00
01 14.8  0.0  9.4      ASSXX XFFF..                              8.6 11.6  5.6 01
02 14.7  0.0  9.4      ASSXX XFFF..                              8.8 11.4  5.6 02
03 14.2  0.0  9.1      ASSXX FFFF%..                             9.0 10.8  5.5 03
04 13.2  0.0  8.6      SSSXM FFF%%..                             9.1  9.9  5.3 04
05 13.0  0.0  7.7     ASSXMM FF%%...                             8.8  8.3  4.9 05
06 11.8  0.0  6.1     SSMMMF F%%..                               8.0  4.2  4.2 06
07  9.2  0.0  0.0 XMMMMMMFF% %..                                 6.4  1.4  0.0 07
08  7.2  0.0  0.0 XMMMMMF%%. ..                                  5.3  1.4  0.0 08
09  6.4  0.0  0.0 XMMMMM%%.. .                                   4.8  1.4  0.0 09
10  5.9  0.0  0.0 XMMMM%%%..                                     4.6  1.4  0.0 10
11  5.6  0.0  0.0 XMMMM%%..                                      4.4  1.4  0.0 11
12  5.3  0.0  0.0 XMMMM%%.                                       4.2  1.4  0.0 12
13  5.2  0.0  0.0 XMMMM%..                                       4.2  1.4  0.0 13
14  5.2  0.0  0.0 XMMMM%..                                       4.1  1.4  0.0 14
15  5.0  0.0  0.0 XMMMM%..                                       4.2  1.4  0.0 15
16  5.1  0.0  0.0 XMMMM%..                                       4.2  1.4  0.0 16
17  5.0  0.0  0.0 XMMM%%..                                       4.0  1.4  0.0 17
18  4.6  0.0  0.0 XMMM%%.                                        3.8  1.4  0.0 18
19  4.5  0.0  0.0 XMMMM..                                        4.0  1.4  0.0 19
20  7.4  0.0  4.6    AMMF%%.                                    5.0  0.0  3.6 20
21 10.8  0.0  7.3     ASXMFF %...                               7.0  7.7  4.6 21
22 12.7  0.0  8.3      SSXXF FF%..                              7.9  9.7  5.1 22
23 13.9  0.0  9.0      SSXXX FFF..                              7.9 10.8  5.4 23
UT  OWF EMUF  ALF |...|....| ....|....  ....|....  ....|....   OWF EMUF  ALF UT
=============================================================================
|.  USABLE LESS THAN 50% OF DAYS|%  USABLE   (50%-90%) OF DAYS      |
|B  BOTH E&F MODES 90% OF DAYS  |M  MIXED                  FIRST AND SECOND F MODES|
|F  FIRST F MODE ONLY    |E  E LAYER PROPN                 | P  90%E &50-90%F|
 S  SECOND MODES ONLY    |A  HIGH ABSORPTION               | X  COMPLEX MODES|
   (c) 23-Aug-06 IPS Radio & Space Services, Sydney  Australia +61 2 92138000
```

Figure 4: The GRAFEX tool output

be using the 20 m band (14.1 MHz equals light blue from the legend). Unless I'm trying to talk to the very far south of the South Island in which case I would be better off with the 30 m band (green). We can also see that in a few hours; say 05:00 UT or 3:00 pm local time the 30m band will give much better coverage for almost all of New Zealand except the very North of the North Island.

Now if we want to look at another 6 hour period from within this day we can press the back arrow button on the browser to return to the previous page. Then select one of the other hyper-links. If we wish to print the results out this can be achieved using the standard method for printing nearly anything, the "File" followed by "Print" combination. When we are finished with this prediction we can close this browser window with the standard "X" close button. The other browser window with the map of the world and our entered data is still open and we can return to it and modify some or all of the data and do another prediction.

Now that we have seen an Area Prediction a quick word about what you can't see in HAP. With a view to simplicity this HAP report omits several important details. For instance, they do not tell us what layer of the Ionosphere is being used, they do not tell us how many hops are required for this signal path and perhaps most importantly they do not tell us what antenna take-off or radiation elevation angle is required. However all of this additional information can be obtained by doing a point-to-point prediction using the GRAFEX tool discussed below.

I should probably mention at this point that the IPS also produces a software package for a PC called Advanced Stand Alone Prediction System (ASAPS). This program is a lot more sophisticated than the Web tools and allows for HF propagation predictions incorporating additional information such as specific antenna characteristics (antenna modelling) and signal-to-noise ratio (SNR) predictions. There is a free demo version of the ASAPS software available for download from the IPS web site.

So we have now seen start to finish a HAP prediction. As indicated earlier all the other prediction tools operate in much the same way requiring similar data. So you should be now able to drive any of the tools. Let's just take a quick look at the other tools to see what they offer.

MinMax HAP

This prediction tool is much the same as the HAP tool already covered in detail. It is an "Area" prediction tool. It differs from HAP in that rather than doing a prediction for an entire day it does one for a particular nominated hour of the day. Rather than just showing the preferred frequency of use for that hour it creates a colour HAP map (as above) for that hour for each of the frequencies that you selected. Thus it will show both the minimum and maximum frequencies for the path and not just the preferred. This will enable you to see for instance there is no possible way to communicate using 10 metres but that it might be possible to communicate using 80 metres albeit with much reduced signal strength.

URSL (URSL - Upper, Recommended, Secondary and Lower - HF Frequency Prediction)

The most significant difference between this tool and the two above is that this tool is a "point to point" tool. Meaning that the communications circuit is defined as being from a specific place on the Earth's surface to another specific place both defined in latitude and longitude.

Left click once on the map and it will set your transmitter location and indicate this with a ".T" displayed on the map. Click again and this will set the receiver location as indicated with a ".R". Clicking again will reset the ".T" location and then the ".R" will follow. You can keep changing these in sequence. It is however probably still easier to use the Base Locator tool.

Place your cursor using the mouse in the "Name 1" field and use the Base Locator. This sets the transmitter location. Now place the cursor in the "Name 2" field and use the Base Locator again to set the receiver location or communication destination.

In this tool, unlike the Area tools, you can directly enter the latitude and longitude into the appropriate data entry fields. But be aware the program makes no attempt to change the text name of the circuit in the matching "Name 1" or "Name 2" fields if you do so.

No pretty graphics this time, only raw textual information. The output will look something like Figure 3.

The table in Figure 2 tells us the preferred or recommended frequency to use for this circuit. It also tells us the secondary or second best choice frequency to use. It also tells us what the absolute maximum and minimum frequency that will function for this circuit.

The GRAFEX tool

Last but not least the GRAFEX tool. Again this is a point to point circuit tool with no pretty graphics. It is also unique as compared to the tools above in that it is the only one which does not require you to enter the desired communication frequency or set of frequencies. It always generates a report covering 1 to 40 MHz. The output of the tool will look something like Figure 4.

An awful lot of information is crammed into this single page report, so much in fact that the interpretation of it could be another entire article. Suffice to say that this graph while not exactly the same is the one closest to the HF Predictions published in AR previously. So even though it is by far the most complex output of all the tools it is probably more familiar to many.

In summary then we have looked at the freely available, zero cost tools available from the IPS Radio and Space Services. These tools enable the Amateur to do very accurate predictions of ionospheric support for HF propagation at a moment's notice using live "real-time" data collected from current ionospheric conditions.

To the best of this author's knowledge, there are only a handful of on-line ionospheric prediction services and only the Australian IPS provides anything like the level of sophistication apparent in the on-line prediction tools discussed in this article. Once again, Australian science is world class.

So drop by the IPS web site next time you're contemplating long distance HF communication and see what it has to offer. You may well be surprised and impressed.

ar

Contact information:

The IPS Web site is located at http://www.ips.gov.au/

For more information on any of the online Web tools, the one day IPS HF propagation course or for details regarding the advanced standalone HF prediction software package – ASAPS, please send an email to office@ips.gov.au or call (02) 9213 8000.

To contact the author send an email to vk2sja@wia.org.au

WICEN: The voice of the bushfire fight

Graeme Scott VK2KE.

Our happy volunteer describes the personal ins and outs of the WICEN effort in providing communications at the recent massive Victorian fire fight

Conscription

I was called up by the State Coordinator of Vic WICEN recently to attend the offices of the Department of Sustainability and Environment (DSE) at Swift's Creek and provide service as a radio/telephone operator during the bushfires in the local area.

I agreed to go. The commitment was for 3 days of 12 hours each, on day shift. The shifts were to be from 8 am to 8 pm each day – Wednesday, Thursday and Friday, 17 - 19 January. So we were looking at 12 hour shifts in line with the government agency staff.

Reporting for duty

I chose to drive via the Omeo 'Highway' (which hardly earns the title 'highway' in my book). The Omeo Highway was entered just east of Tallangatta on the Murray Valley Highway. I hadn't been too sure which way to get to Swift's Creek and thought the Omeo Highway would be OK. As it turned out there was a significant amount of slow winding road and a lot of, at times, rough gravel road. Perhaps it was indicative that I was not passed by another vehicle in either direction along this road!

Anyhow, I left Albury at about 10.20 am and rolled into Omeo at about 2 pm, having had a short drink/lunch stop at Mitta Mitta. The road was very scenic but one wonders about the quality of a road that could carry much more traffic, and could be a tourist road, but the off-put is the poor state and so much gravel surface.

Anyway I eventually arrived at Omeo (having noticed quite a bit of smoke in the hills in the area) and then proceeded the extra 27 km to Swift's Creek where I found the DSE centre and checked in with reception. I was told to go to the accommodation officer to ensure my motel was confirmed. This done, I then went to the ICC control room and met the Incident Controller, Claus VK3AZE, and Don VK3DON, who was to be my colleague for the next three days. Claus, having decided that he had completed his shift, went home.

As it turned out, I had taught Don his ham radio theory at Box Hill TAFE many years ago and so it was quite a reunion!

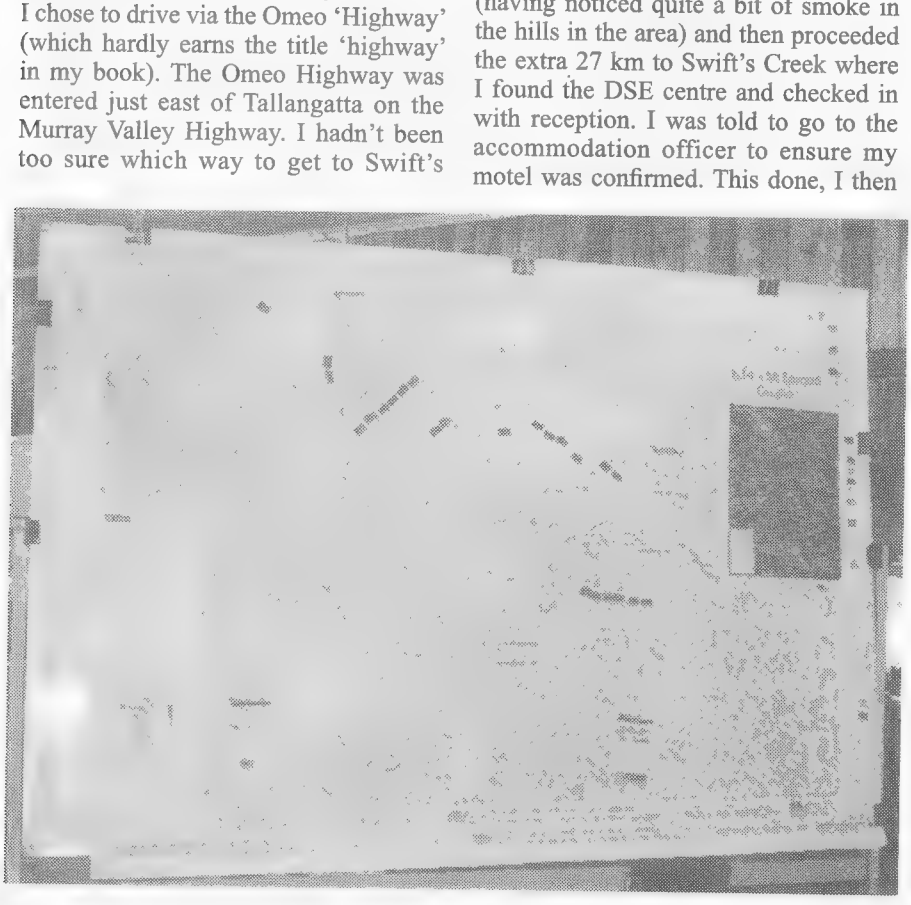


Photo 1: One of the fire area maps in the Incident Control Centre

Learning the ropes

or revisiting old skills

I began the task of getting oriented into the local fire management system and getting to know the staff, the geography and the government systems on-site. It was quite impressive to see so many government departments working together on the fire-fight. There was Parks Victoria (PV), Department of Sustainability and Environment (DSE), Country Fire Authority (CFA), Victoria Police (VICPOL), Rural Ambulance Victoria (RAV) and St John Ambulance, among a number of others. This appeared to be very similar to what I encountered at Ovens near Myrtleford in the 2003 fires.

The deputy incident controller in this case was from PV and seemed to be the main executive officer in relation to fire control and personnel deployment. The table I was stationed at had a very large map of the area on it, where fire trends and people and truck/tanker movements were being constantly plotted.

Noise and Fury

There were a number of phones in the room which was an 'open plan' set up and of course a number of radios on the trunk system. At the time the fires were very active and many trucks, tankers and fire fighters were out on the fire grounds in the area. Many messages and phone calls were occurring. So, we got into the swing of it pretty quickly.

My first impressions were that the setup was very similar to what I encountered at Ovens during the 2003 fires.

My preference would have been to have had separate operating booths for each operator but it was evident that the incident controller liked to hear what was going on via the trunk radios. However, the IC was not always at the table in charge of proceedings, as he left the room to talk to people and was frequently in briefings and meetings. At these times we moved into writing down the incoming messages and I was doing this on the WICEN message form I developed at Ovens, as I found it best to do this and then be sure the right recipient eventually got the message.

Occasionally I took the message to the recipient, usually the CFA bloke or the PV IC in a meeting as the message seemed to be urgent and important. At times they slipped out of the meeting to make a call so it must have been important!

My experience at the SES in Melbourne during the Ash Wednesday fires was that we were stationed in booths with headphones on and then we handled messages and took down incoming ones on forms so that they could be passed on to the relevant person. The operation in this case was smooth and much less noisy than the incident control centre for these fires, where the open plan room allowed for many loud messages to be heard, at times over the din of people coming into the room and talking; sometimes it was a bit of a cacophony. However, after years of being on 20 metres in contests and fighting the dog piles in rough conditions trying to get a 'rare' country, the job wasn't too hard! I've got a DXCC certificate on the wall to prove it.

Army marches on its ....

The system was very good at welfare for all personnel. Food was delivered regularly to the lunchroom and this was morning tea, lunch and evening meals. Fruit bowls were always out on the tables and even my downfall, chocolate bars, were also on tap. So we certainly were very well looked after.

All hands to their own pump

The system was also very highly organised in that special sections of staff were placed in offices to do certain tasks of importance. They included communications planning, resources, mapping, accommodation, ambulance/medical/first aid, information/ media, plant and equipment.

Photo 2: The author in action, manning the telephone

Who, what, where, why how, and when

Some of the messages we handled related to bulldozers needing repairs, changeover drivers, refuelling and relocating dozers, Air/Ambulance service for a heart attack patient in Omeo, information re road closures, police controlled convoys on closed roads, meals to be delivered to teams at the fire front, SITREPS, weather reports, NZ and Canadian team deployment and welfare, rainfall reports, wet tracks, lightning strike locations, warnings about 'stags'- dead trees that might fall, flood reports from farmers, visibility reports to pilots, airstrip open/ closed reports to pilots, blood samples to be delivered to Bairnsdale.

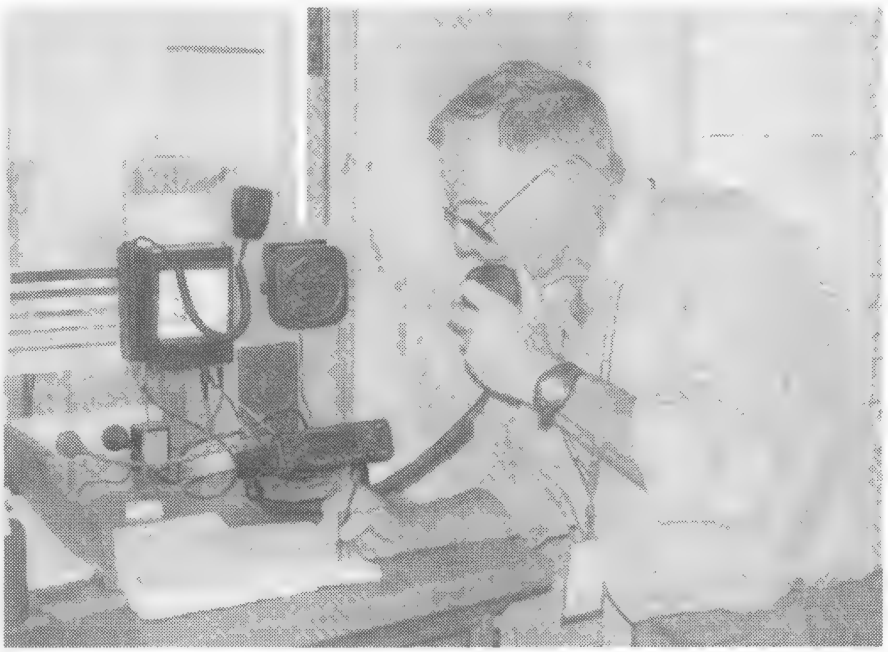


Photo 3: Don VK3DON using one of the trunking radios.

Australian made

ANTENNAS

Setting a new standard

COM-AN-TENA

(formerly a j and j coman)

115 John Street
GLENROY 3046

23 cm 36 ele slot fed Yagi beam	$232
2 ele delta loop 10/11 metre	$255
40—80 metre vertical **NEW**	$330
10/11 beams comp opt 5 ele	$370
10/11 5/8 vert 4 rad 1/4 wave	$208
Tri band IIB 35 C 10/15/20 m	$782
3 ele 20 m comp opt	$475
log periodic 9 ele 13 30 8.4 m boom	$1098
NEW 160 m Vertical **SUBURBAN**	$355
40 m linear loaded 2 ele beam	$595
M B Vert auto switch 10/80 m	$339
6 m 7 ele Yagi beam 60 mm boom	$397
6 m 5 ele comptr opt beam	$285
Top loaded 160 m vert	$439
10 ele high gain 2 m 3.9 m boom	$159
17 ele high gain 70 cm 3m boom	$139
Rotable dipole 40 m	$250
80 m top loaded vertical	$273
dual band 2 m 2 5/8 vertica;l	$120

Guyed Masts

21 metres **13 metres**

Winch-up & tilt-over. Aluminium and stainless steel three-sided construction. Auto-brake winches.

Free Standing Masts

9.5 metres

New Baluns

1-1 to 16-1 to 3kW

Our Masts meet Australian Standards. We supply all the computations and data you will need for a permit.

03 9773 3271

Mob: 0419 542 437

Operations

the job's not done until the paper work is complete

The whole system was a very efficient one in most cases, as it had to handle many aspects of the fire-fight. Once we had got the hang of the personnel and the geography we settled into a routine and handled messages in fine fettle. Don and I decided to make up a list of key people and their jobs and locations. This was most helpful when you are under pressure. The quick-look-up list became invaluable so that a person and their location and phone extension number could be easily found. We also generated a "WICEN" folio to leave for the next operators and hope they got it as it had useful stuff in it including the alphabetic list of staff and their departments and spare message forms.

And so to bed....

The long 12-hour shifts were indeed l-o-n-g and we usually crashed into bed once the evening meal had been delivered. The alarm would go off at 0600 the next day and after a quick breakfast in the motel, we left to commence at about 0700 so there was a short handover period from the night shift before we commenced the day shift at 0800.

Don and I experienced a fatigue period of about 2 days afterwards. I likened it to the let-down after teaching classes in TAFE, as the intense concentration takes a toll on one. You are not physically tired, which I feel is a better way of being tired, rather, you are mentally tired and this takes a while to wear off. You feel tired but do not always sleep it off easily. It's maybe a bit similar to being jet-lagged after a long flight with little or no sleep.

Raking over the ashes

The experience was great, as we felt we were contributing in a positive way to the whole fire-fight effort. It also honed our message handling skills. We found that three days on a 12-hour shift was long enough, as any more would have been quite exhausting.

I asked the IC on the last day of our duty period if he wanted more WICEN guys to fill our shoes and without hesitation he said 'yes please', as it would allow him to keep staff in the field on fire fighting activities and not lose them to working on the phones and radios in the ICC.

Demob and home

For the return trip to Albury, I decided to take the Mt Hotham road via Dinner Plain, Harrietville and Bright. It turned out to be sealed bitumen all the way and was much more pleasant, and safer for driving. The scenery is spectacular too. It was also about 75 km less for me on my trip home. The only downside was that there were no coffees at Dinner Plain, Mt Hotham or Harrietville, as I was too early for the locals to have got up and put on the coffee machine! They lost out to the bakery in Bright!

Would I do it again? Yes, but with about a week or two for a break.

The motel meals and car travel will be paid for by the Victorian Government and for this we are grateful. As it was, I lost some paid work time over the duty period, but that's part of being a volunteer.

ar

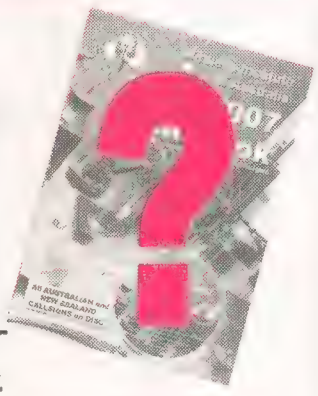
WANTED

2008 Callbook is getting under way.

Photos suitable for the cover are sought.

Send to 'Callbook' at Federal Office.

Brenda VK3KT
Editor.



Our friend and foe

Roger Harrison VK2ZRH

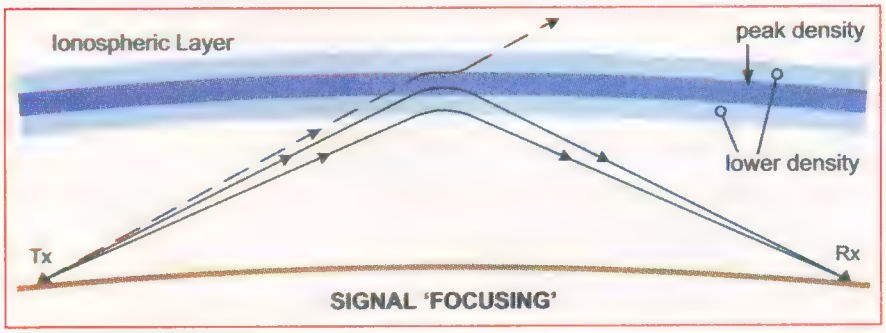
The image on this issue's cover shows the Sun's radiation at the extreme ultraviolet (EUV) wavelength of 304 Angstroms, coming from completely ionised helium (He II) at a temperature near one million degrees Kelvin. This is a region above the Sun's photosphere, the visible disc (never look at the Sun directly!), and the thin chromosphere ('or colour sphere', from the red glow of ionised hydrogen), but below the corona - the very hot, huge, wispy outermost part of the Sun's atmosphere. You're looking at the 'transition region', the source of the EUV that forms the Earth's ionosphere and other processes that are important to predicting space weather that affects HF communications.

Many features of solar activity can be seen in the image.

Just to the lower right of the image's centre is a bright, C-shaped region called a 'plage' (literally, French for beach). These are typically found near sunspots, though, not always.

What looks like grass around the rim are called 'spicules' - thin fingers of luminous gas that rise and fall over about 10 minutes. Larger features, called

continued next page



TVI High Pass Filter with Braid Breaker.

An inline TVI filter with Braid Breaker.

A large amount of TVI can travel down the outer braid of Coax as well as the centre conductor. The braid breaker isolates the centre conductor and braid from the TV/VCR/DVD. The High Pass filter cuts in at 50MHz. This filter has –80dBm attenuation at 40, 80 and 160 Metres.

Pager Notch Filter:

A receive filter that can be used in an outdoor housing (Pictured) to be mounted close to your antenna on the mast, or can be used in a diecast box for indoor use near your transceiver or receiver. The filter is set to 148.5 MHz but may be tuned by the user across the 148 to 149 MHz Pager band. A selection of connectors are available including BNC and N Type. Where transmit is required this filter can be switched out of circuit by the use of coaxial relays linked to the PTT switch.

Contact us if you need a special filter, we manufacture here in Australia rather than overseas.

www.vicnet.net.au/~jenlex

Email: jenlex@vicnet.net.au

Phone: (03) 9548 2594

FAX: (03) 9547 8545

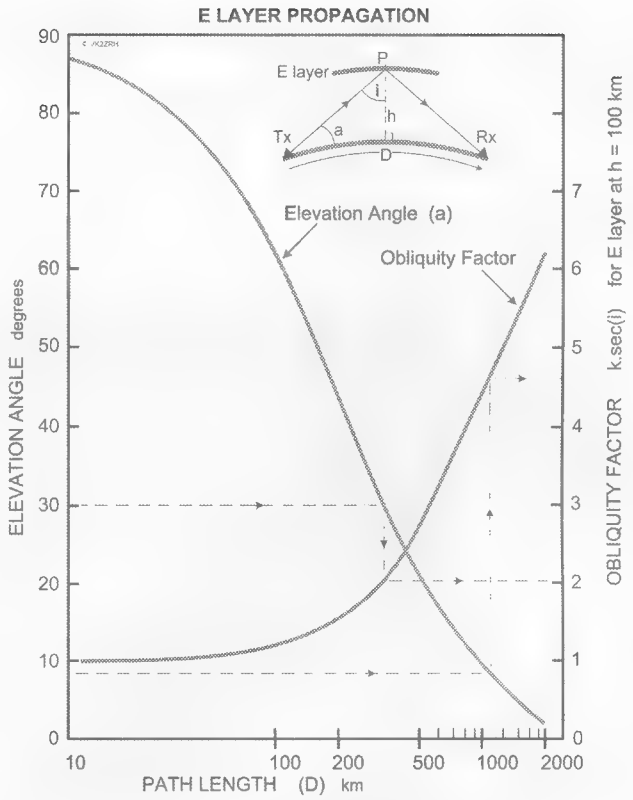
Our friend and foe continued

'prominences' or 'filaments', can be seen standing out from the rim at about 1 o'clock, 3-4 o'clock, 7 o'clock and 11 o'clock. These giant plumes of gas, which can last days to weeks, are the source of many Coronal Mass Ejections (CME), a spray of high speed particles that disturb our ionosphere when the Earth passes through the spray. When that happens, conditions on the HF bands are generally depressed, but opportunities for anomalous VHF propagation via the ionosphere can result, e.g. auroral reflection.

The Sun is thus at once our friend, because it creates the ionosphere which allows us to work HF DX, and our enemy, because it disturbs the ionosphere and makes the HF DX disappear!

Further reading:

http://www.ips.gov.au/; or http://wikipedia.org/ and enter 'chromosphere' and 'solar transition region'.



WANT A JOB IN RADIO?

See ad on page 36

vk3ajj radio exchange

WWW.VK3AJJ.COM

Radio Exchange

The Radio Exchange webpage

WWW.VK3AJJ.COM

is a portal for the sale / exchange of new and used radio gear in Australasia.

- Sell your owned used gear online using the free Radio Exchange User Classifieds (why pay unnecessary Ebay seller fees)
- Browse the Radio Exchange Online store for over 500 radio related products including Icom, Yaesu, Kenwood, SGC, LDG, Flex Radio, Cubex, MFJ and many more (all at unbeatable prices)
- Subscribe to the regular Radio Exchange newsletter and receive a fortnightly email advising of close-out items, new product releases and other radio related information.
- Trade-in your unwanted radio items to Radio Exchange
- Research your next radio purchase using the online brochures page at Radio Exchange (over 100 radio related brochures available for download)
- Radio Exchange welcomes purchase enquiries via email, telephone or fax. We are the mail order specialists and dispatch same day as receipt of funds into either our OZ or NZ based bank accounts. Laybuy purchases are of course most welcome.
- Supporting the hobby of Amateur Radio is the primary objective of Radio Exchange

A: PO BOX 1200, DARLING, VIC. 3145
E: vk3ajj@iinet.net.au
T: 03-9505-6590 (61-3-95056590)
M: 0410 093 759
F: 03-8640-0419

Contact Paul (VK3AJJ)
WWW.VK3AJJ.COM

RADIO EXCHANGE

TRADING HOURS
EMAIL: 24 HOURS - 7 DAYS PER WEEK
TEL: 9.30AM EST - 9.30PM EST 7 DAYS
FAX: 24 HOURS - 7 DAYS PER WEEK

Simple production of printed circuit boards

Neil Sandford VK2EI
neilsan@tpg.com.au

Many methods for home users to make their own PCBs have been described in the past. Here are the details of a simple, cheap and the most reliable method I have found and used. No originality is claimed. The method is suitable for quite complex and intricate artwork. Hopefully this will encourage first-time users to have a go.

In the early days the procedures were messy and time consuming, requiring a darkroom for photo mask processing, chemicals, UV lamp, etc. Photo resist spray-on negative or positive films eased the task somewhat. Next came the various stick-on and pre-prepared photo resist boards. Techniques using paper transfer suffer from problems with the paper fibre and it can be difficult and messy to remove the paper. Although I haven't tried it, there should be fewer problems using clay-based papers. With the advent of laser copiers and printers, a ready means of image transfer was provided. Also, using a convection oven instead of the more usual iron-on method further enhances the repeatability. So the convection oven method is the one described here.

Method

1. Prepare the print by photocopying the artwork from a magazine article or whatever. Adjust if necessary for the correct final 1:1 size and copy to a photocopy transparency. Ink jet printers are not suitable for this; it must be a device using carbon transfer and the transparency must be suitable for laser copying to withstand the transfer heat. The contrast should be as dark as possible, even to the point where there is a very slight greying of the clear areas. Some of the modern laser devices are too clever in that they automatically adjust the maximum contrast, so limiting the carbon thickness. If possible, manually adjust the contrast.
2. On this first copy the carbon may be on the wrong side of the transparency depending on the orientation of the original, thus producing a reversed image. Should that occur, make a copy of the first transparency taking care with the orientation and contrast adjustment. Check that when you look through the transparency to be used you have the desired image orientation and that any printing is not reversed (see Figure 1). The carbon must be on the opposite surface so that it is in direct contact with the PCB. Any doubtful or flawed areas may now be touched up with a regular etch resist pen.
3. Next prepare the PCB. The surface must be clinically cleaned using steel wool, one of the green scouring pads or very fine 1200 grit wet and dry emery paper. Wash with detergent, taking care not to touch the cleaned surface. The surface should readily wet all over when thoroughly clean. Dry with a gentle heat.
4. For the transfer process refer to the cross-section view in Figure 2. I use two pieces of 3 to 6 mm thick aluminium plate with dimensions larger than the PCB. Ceramic tiles are also suitable so long as the surface is flat. Place the PCB on one plate with the copper plane to be etched uppermost. Next, place the mask and check that the carbon is in contact with the PCB surface to be etched. Also, check for the correct image - you should be able to read any lettering. It is a good idea to use a couple of small pieces of sticky tape, clear of the image, to secure the mask in place. Cut and place 20 or so layers of butcher's paper on top of the mask, followed by the second piece of aluminium plate or similar. As some PCB material has a slightly irregular surface due to the texture of the fibreglass, the paper ensures there is full contact between the carbon film and the PCB surface.
5. Carefully place the assembly in a convection oven (I am one of the lucky ones that doesn't have to wait until the XYL is out!). Place a heavy weight on the assembly taking care not to disturb the set up. A convenient weight is one of those old TV power transformers; the heat probably does it good in case you may want to use it one day.
6. Set the oven to 150°C for 50 minutes, or an hour if you are using ceramic tiles.
7. Let the assembly cool in the oven without disturbing and if possible remove it when just warm to the touch. The carbon transfer seems to be better before the transparency has completely cooled. Remove the top plate and paper, then carefully peel off the mask starting from one end.

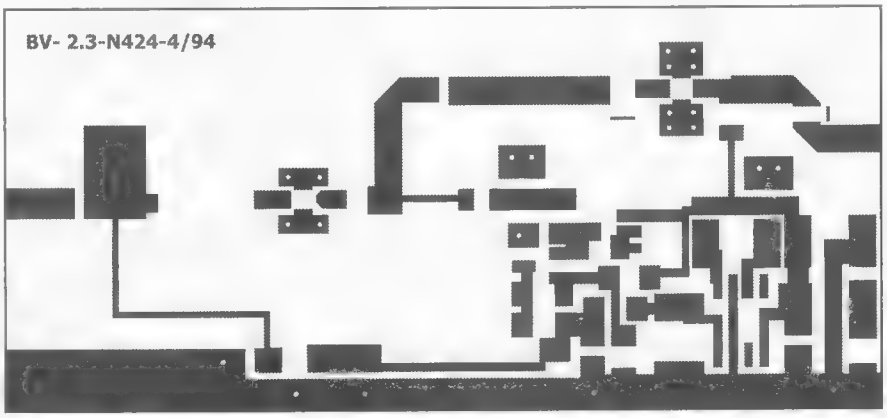


Figure 1: Sample of the graphics ready for PCB production

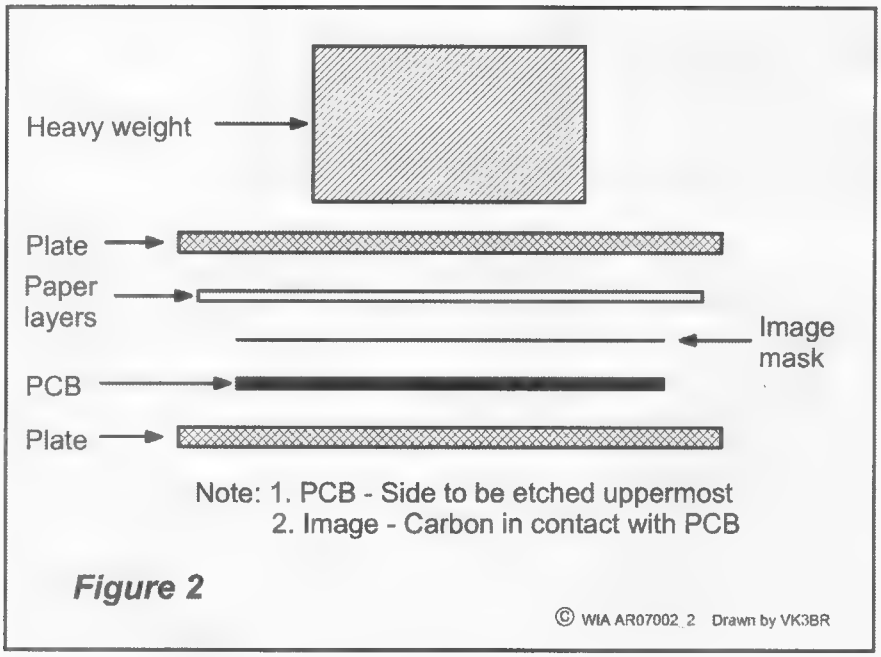


Figure 2: Side view of the lay-up stack

All being well you should have a good transfer of carbon. Sometimes some areas that were not thoroughly clean will not transfer properly. These areas can be touched up with a regular etch resist pen before etching.

8. Etch in the usual manner. Remove the PCB after a short while and examine to ensure all exposed areas are etching. Any areas that should be etching but have not started can be encouraged by gently scraping with a scalpel or the like.
9. Once the etching is completed, wash the PCB thoroughly then remove the resist with turps or good old WD40, followed by a final detergent wash.

Comments

The problem with print reversal of the artwork can arise when it is produced with a graphics program such as Paint, or with a PCB CAD program. For regular use with wide tracks, the first image can be printed on a high quality paper. For the finest tracks it may be necessary to use a higher quality photographic paper. A regular ink jet printer is suitable for the first copy where reversal is required. Besides saving a sheet of transparency it is also more convenient when using a laser printer at the Library or other shop. Most of these printers will only have A4 sheets of transparency available so fill your Master copy with as many images as will fit. When you have backups Murphy is less likely to surface and you will also have copies for future use.

Should the scan or copy be a bit tatty then the clean-up can be performed using the previously mentioned programs. Sometimes, easier touch-up can be achieved by converting the image to a negative copy so that the normally clear areas become black. Then reverse the image back to the original positive copy. Another means to clean up a really poor copy is to use a program that can handle layers. Place the copy on a lower layer then redraw on the top layer. This is especially useful for microwave circuits. If your program is not layered then the image can be blown up to pixel level to clean up edges and/or remove blemishes. You will find this tedious but it is very effective.

I never had a lot of success with the iron-on method, possibly due to slight movement of the transfer and also the difficulty of judging the optimum amount of heat required.

Should you wish to use double-sided board to provide a ground plane, it will be necessary to protect the ground plane from the etchant. A simple way is to use strips of PVC insulation tape, taking care to seal along the joins. Any stick-on film is also suitable and more convenient than using a paint type resist.

Happy etching.

Reference:

Silicon Chip, May 1993, p 92.

ar

Silent key

John Edmonds VK3AFU/VK3ATG

John Wilson Eadie Edmonds was born at Natimuk in the Wimmera 82 years ago.

He fitted a lot into his life, including much amateur radio.

After his schooling at Clear Lake Primary School and Horsham High School, he joined the Air Force as a Navigator, spending most of his war years in PNG. After discharge from the Air Force, he completed a B Agr. Sc. at Melbourne University, married and produced four children.

As well as working the family farm, he participated fully in all the community activities, including tennis and the Fire Brigade. It was at this time that the Rural Fire Brigades were investing in radio communications for fire-fighting, which led to his interest in amateur radio.

He was licensed as VK3AFU in 1960, relinquishing the callsign only in recent years because of ill health.

In 1967 the family moved to Frankston, where he held a research position with the then Vermin and Noxious Weeds Department (now DSE). He was a Founding Member and Life Member of FAMPARC, where he gave considerable time to running classes for potential amateurs.

He held the position of Federal Historian for the WIA for several years, sorting and classifying part of the extensive WIA Historical collection.

He leaves a partner, Ros, and two children, Adam VK3JEA and Samantha, and grandchild Archie, as well as a wife, Brenda VK3KT, four children, Brenda VK3QT, Charles VK3AFV, Vicki VK3LT, and Alex VK3BQN, and grandchildren, Kim VK3FHQT, Peter VK3FLIP, Matthew VK3FMJG and Nicole VK3FXYL.

Vale John VK3AFU. You got me started in this radio game.

Brenda VK3KT

Herbert (Bert) Harmer VK5AUS

7.4.1916 – 16.10.2006

Bert was born in the township of Broken Hill, N.S.W., on 7 April 1916, one of nine children. At six years of age, his family moved to Clare, S.A., and then to Port Pirie where he completed his education. The depression was at its worst but he was fortunate to find employment as a postman at a nearby town. Later he found a casual job in a cycle store in Port Pirie and this led him to become interested in cycles, and so he decided to enter cycling events and he started winning. The highlight of his cycling career was to win the Port Pirie Diamond Jubilee Wheel Race, along with some other events on that same day.

The army (A.I.F.) was looking for people with Morse code experience and he joined the 19th L.O.C. at Keswick Barracks and gained the rank of N.C. Sergeant. He was very proficient at Morse code, and instructed other personnel, which also included a number of women. He spent three years in the islands of New Guinea and New Britain with a heavy wireless task force. While there he contracted Malaria and Dengue and did not recover for years after.

Before being discharged from the army he met and married his wife, Lorna. He opened a cycle business at Solomontown before working as a branch manager for Super Elliot Cycles, first in Port Pirie, then in Adelaide. He then opened his own cycle business in Sefton Park, a suburb of Adelaide and was there for 20 to 25 years before retiring at the age of sixty.

It was during this part of his life that I met Bert and became friends. On one occasion we agreed on an arrangement that he would teach me Morse code if I would instruct him on amateur radio theory. I passed my code and Bert passed his Novice exam to become VK5NHH on 21/11/1978. Not happy with this, on the 18/8/1981 he passed his A.O.C.P. and became VK5AUS.

Most of his communication was with Morse code and he regularly communicated with some of his army friends via this mode on the HF bands. He was very proficient, usually operating around 40-60 WPM. Most of us 'hams' would have a microphone attached to a transceiver mounted in a vehicle. But not Bert, he had a Morse key that would pivot out. He received his WAS award and almost had sufficient contacts for the WACC award. Amongst his other hobbies was gardening and he was very good at that as well. He carried out everything with excellence in mind.

Bert is survived by his two daughters, Pauline and Sandra, and by his brothers and sisters. A true gentleman and friend.

Submitted by Colin Rieger VK5ACE

.

It is with sadness that I inform you that my father Mr. Herbert Charles Harmer VK5AUS, membership number 184888, has passed away on 16/10/06 at Hamley Bridge Hospital, Albert Street, Hamley Bridge, SA, at 90 years of age.

My father passed away peacefully after suffering a stroke. He was in the hospital for over twelve months, as he fractured his hip in June 2004.

Dad was very passionate about his radio companions and for many years enjoyed communicating with them from all over the world. He even got me to speak on radio one day to one his friends, which gave me quite a thrill.

So I guess Dad will sign off for the last time. VK5AUS signing off. We thank you all on behalf of my father for many enjoyable years on Amateur Radio.

Kindest regards,

Mrs Sandra Pink.

Wal Stuart ex VK2AYJ

Wal Stuart obtained his AOCP in 1975. He had been interested in radio since his boyhood days when he built crystal sets featured in "The Wireless Weekly". During his teenage years in the 1930s, he walked to school so he could spend his tram fare on parts to build his first valve radio. When he entered the army in WW2, he asked to be a signaller. His infantry unit spent the war stationed at Geraldton, WA.

His eldest son Peter also developed an interest in radio and electronics, and in 1975, the pair enrolled in Sam Voron's (VK2BVS) study classes at UNSW. Father and son passed all exams, except for Peter who failed his first Morse exam. Wal's army training in Morse had given him a distinct advantage.

Wal fitted out a campervan for his retirement. He packed it with HF, VHF and CB radios. He and his wife drove to many places in Australia. Peter (in Sydney) had a sked with them every day they were away. For most skeds Wal erected an 18AVT on the van's roofrack. He got some funny looks when he did this in King's Park in Perth. He also became very adept at erecting long wires using fishing tackle, when trees were close by.

When at home in Sydney, Wal had a regular weekly sked with Peter on 2 m. The pair also used RTTY for a few years.

Wal ran a JOTA base for the Guides at Cabarita for many years, and he received a certificate for his service. He was a member of the WIA for the 30 years he was licensed.

Wal's main interest was experimenting with homebrew antennas and building his own ATU's and power supplies. Increasing illness led to him and his wife relocating to a retirement village in 2005. He was forced to give up his hobby and he let his licence lapse.

Wal passed away on 20th July 2006, aged 83. He is survived by his wife, three children and eight grandchildren.

Peter Stuart, VK2BEU.

Chris Spikins VK6TCS

I am saddened to inform that Chris Spikins VK6TCS passed away on 6 November, 2006.

Submitted by Mrs Spikins.

Australian Enterprise Industrial.
ABN 21 585 743 778

"HOME of the ONE MAN TOWER"

http://www.spin.net.au/~aeitower/index

Australian designed and manufactured.
In production for more than 20 years and exported all over the World.

Offering the Worlds strongest, safest and most versatile small footprint, free standing, communications tower.

Raise and lower your array safely and easily for adjustment WITH BOTH FEET ON THE GROUND!

No other tower offers the features or the strength of the "One Man Tower".
Mini towers 7.5m (Mini7.5) – 10m (Mini10)
Midi towers 10m (Midi 10) – 12.5m (Midi12.5)
Maxi towers 10m (OMT10) – 12.5m (OMT12.5) 15m – (OMT15)
Maxi towers are also available in Deluxe version with DC motorised winch.
All towers fully hot dip galvanised after manufacture to ensure long lasting protection from the elements.
(Trailer mounted models available on special order.)

AEI also carries the fantastic "OzSpid" rotators.

RAK – medium/heavy duty Azimuth and RAEL – medium/heavy duty Elevation.
The utilisation of the two separate units gives the user a far more versatile option by allowing the installation of a 6m and or HF antenna under the elevation array and take full advantage of the Azimuth rotator.

In addition. We also offer a very competitively priced Australian made 5:1 braking winch.
(it is not only stupid to lift with an ordinary boat winch – it is illegal)

And. We now manufacture a range of Delta Loop, Quad and Yagi antennae.

Contact. Kev. VK4KKD
P.O. Box 1013
Browns Plains. 4118
Qld. Australia.

Mob. Ph. 0414 254 080

email: aeitower@spin.net.au

Visit "The Dish"

WIA AGM to be held at Parkes

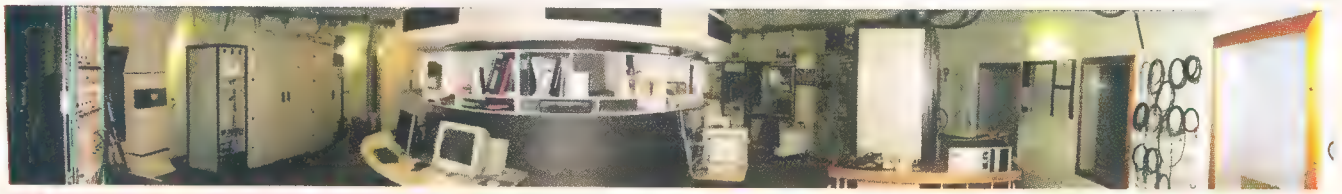
Robert Broomhead VK3KRB

The Parkes Radio Telescope, or "The Dish" as it has become well known after a movie of the same name, is owned and operated by the CSIRO. It is an active scientific research instrument performing daily radio measurements and related studies. As a working research instrument, the Telescope is closed to the public. Visitors can visit the Radio Telescope site but are restricted to walking around the grounds surrounding the dish and viewing a documentary video at the visitors centre. By special arrangement with CSIRO management, the WIA is pleased to announce that it has been granted a series of detailed "technical" tours inside the Telescope facility for WIA members. These tours will be conducted on the Sunday of the AGM weekend and members will be able to see first hand the inside workings of the Radio Telescope and ask technical questions of the site engineers.

Make no mistake, for most members, this will be a once in a lifetime opportunity to step inside and see the workings of one of the world's most active and powerful Radio Telescopes.

To be part of this exciting upcoming AGM weekend, taking place on 4th to 6th May, please complete the registration form which is included in this month's AR.

ar



EMDRC
EASTERN AND MOUNTAIN DISTRICT RADIO CLUB INC.
WHITE ELEPHANT SALE
Great Ryrie Primary School
Great Ryrie Street Heathmont
Doors open at 10:30 AM
Entry $6.00 per head
Sun March 25th 2007
Hundred of components, pre-loved radios, test gear, computers, software and commercial displays.
Table space $17.00 - 6ft, $20.00 - 8ft
(inc entry for one person)
For Bookings call Colin VK3FQL on 0414 879 682 or email wes2007@emdrc.com.au by 16th March
Talk in on VK3REC
147.175 MHz
Soft drinks, hot dogs, hamburgers on sale.
Free tea and coffee.
WE ARE HERE
MELWAYS 49 K11
BEDFORD RD
GREAT RYRIE ST
KITSON ST
REILLY ST
EDNA ST
HEATHMONT RD
CANTERBURY RD

AMSAT

Bill Magnussen VK3JT

The Lunar Transponder question comes up again

Every so often this question comes up in discussion on the BB. This time it was triggered by a NASA announcement of plans to establish a lunar base as a testing ground and possible staging point for a Mars base at some later date. Questions usually take the form "Why can't we have a transponder on the moon?" .....etc..... The most recent query took it one stage further. "With the amount of libration on the moon, what's the maximum antenna gain per band that you can get before it becomes too much of an issue". The person asking the question was referred to James Miller's now years old article on the subject.

http://www.amsat.org/amsat/articles/g3ruh/110.html

This is such a perennial question that James' article should be prescribed reading for everyone in the satellite game. Every time the moon is propelled into public notice for some reason, the moon transponder question comes up on the BB soon after. In addition to James' full treatment of the technical difficulties, there are issues of security and encoding and access. There's a lot more in this question than first meets the eye. James' article is an essential starting point for anyone interested in learning more.

The AMSAT group in Australia.

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. Contact Graham if you wish to be placed on a mailing list for breaking news and net reminders. As a forum for members, AMSAT-VK operates two monthly nets.

AMSAT-Australia Echolink Net.
The "Echolink" net meets on the second Sunday of each month. Anyone with an interest in Amateur Radio Satellites is welcome to join the net. Graham VK5AGR acts as net controller. The net starts at 0500 UTC during summer time periods and 0600 UTC during winter standard time periods. Connect to the AMSAT conference server on Echolink a few minutes before these times.

AMSAT-Australia HF net.

The HF net meets informally on the second Sunday of each month. In winter (end of March until the end of October) the net meets on 3.685 MHz at 1000 UTC. In summer (end of October until end of March) the net meets on 7.068 MHz at 0900 UTC. Start listening 15 minutes before these times.

All communication regarding AMSAT-Australia matters can be addressed to:

AMSAT-VK,
9 Homer Rd,
Clarence Park. SA. 5034

Graham's email address is:
vk5agr@amsat.org

AO-51 operations change

Drew Glasbrenner KO4MA [AMSAT-NA VP Operations] recently made this announcement on the AMSAT-NA bulletin board. It concerns operations on the popular AO-51 satellite. "The primary FM repeater modes on AO-51 have historically required a 67 Hz subaudible tone to access the satellite. This tone was originally designed to allow the downlink to be switched off when the satellite was not in use. Because of the difficulties in power management between orbits seeing heavy use and those with light use, this scheme is not practical with the current software onboard the satellite. The use of the subaudible tone access has also been problematic when trying to identify the seemingly growing interference issues experienced on most 2 metre uplink frequencies, and when the satellite is over areas of heavy use. Furthermore, despite the near ubiquity of subaudible tone enabled radios in North America, many areas of the world have limited or difficult access to this type of equipment, even in commercial off-the-shelf gear. After careful evaluation and discussion, I have made the decision to suspend the subaudible tone access on AO-51 until such time as it becomes necessary or useful for power management. Please continue to listen to the downlink before and as you transmit to reduce QRMing other users. This means full duplex operation is the most courteous and efficient means of operating the FM satellites. Also, please continue with renewed vigour to help identify and eliminate both non-amateur interference, and amateurs operating outside of the established band plan that interfere with our satellites. Operators with questions or feedback regarding this policy can email Drew at ko4ma@amsat.org, and those with special mode requests can continue to submit them to ao51-modes@amsat.org for consideration". The Operations Committee meets each month to consider and set the schedule for the following month: your input is always welcome.

Updated firmware now available for the LVB Tracker

Howard G6LVB reminds users of the LVB Tracker rotor control system that he has a new set of firmware that includes compatibility for use with the Predict tracking program. Howard explained, "I discovered that Predict sent null characters at the start of each command that meant the old firmware got confused and ignored the command. The updated LVB Tracker version ignores these null characters." If you would like to test the new firmware, contact Howard at g6lvb@amsat.org When you purchase an LVB Tracker kit, a handsome donation goes towards building new satellites!

Pehuensat-1 launched and active

AMSAT Argentina announced that Pehuensat-1, the 2nd Argentine amateur satellite was launched from India by an ISRO PSLV-C7 4 stage rocket on January 10. It attained a 635/640 km polar sun synchronous orbit with an inclination of 97.92 degrees. Once activated, Pehuensat-1 will transmit voice messages in three languages, English, Hindi and Spanish, and will be heard on 145.825 MHz plus an AX25 1200 baud packet following the voice message. More information can be found at: http://www.amsat.org.ar?f=6. Alejandro LU8YD, at the Pehuensat control station at the University of Comahue, reported hearing weak signals on 145.825 MHz after the satellite was activated. The satellite's controllers are investigating and plan to report on their findings. PEHUENSAT is pronounced "Pe-when-sat" in English.

Australian Scout Jamboree - ISS contact successful

A successful Amateur Radio on the International Space Station (ARISS) contact was carried out with Scouts attending the Australian Scout Jamboree 2007 on Sunday, January 7, via the telebridge station VK4KHZ. Nineteen Scouts were able to ask one question each of Sunita Williams KD5PLB. Approximately thirteen thousand Scouts and eight thousand leaders from 53 countries attended the event. Photos taken of the Jamboree's amateur radio station may be viewed on:

http://www.wia.org.au/news/2007/20070103-01.php

For a write up and photographs of the ARISS contact, see: http://www.wia.org.au/news/2007/20070108-01.php

The conversation from ISS was clearly audible here on my 2 m hand-held TRX with rubber duckie antenna. ISS was still high in our sky when contact was lost with VK4KHZ and the transmission was terminated.

Latest news on P3E

The projected launch date of the AMSAT-DL Phase-3E high orbit satellite is drawing closer. Many in the fraternity are eagerly anticipating a return to the halcyon days of Amsat Oscars 10, 13 and 40 and the French Arsene. Those who have preserved their 2 m, 70 cm, 23 cm and 13 cm radios and tracking antennas will be champing at the bit. The development team of AMSAT-NA's "Eagle" satellite have been required to wrestle with the longer term problems of crippling noise pollution on these bands world-wide. As a result, Eagle may turn out to be a very different high orbit satellite from the birds we have seen in the past. It will need to be if the requirements of city operators are taken into account, and they constitute the vast majority of satellite users. A more traditional satellite would not fulfil their needs into the future in today's digital noise ridden city environment. The teams at AMSAT-DL and Marburg, having a more immediate aim in mind, have kept many of the functions of earlier birds. P3E's primary mission is as a test bed for circuits and systems which are being tested in preparation for the Marburg University Mars Mission. P3E will therefore appeal to those operators who live or operate on the fringes of cities or out in the country or in remote areas not so badly affected by the current noise saturation prevalent in inner cities and suburbs. So, what's the latest from AMSAT-DL? A quick trip to their web site will reveal all.

nr

Plan ahead

Centre Victoria RadioFest

Kyneton, 22 April

Centre Victoria RadioFest at Kyneton, less than an hour from Melbourne, Ballarat and Bendigo on Sunday, 22 April.

Major traders, second-hand market, club corner, come n' try activities and interesting mini-lectures.

For sales tables & car-boot spaces contact Nick Angelo VK3UCK 0448 653 201 or vk3uck@hotmail.com

It will be a family friendly event with a children's playground and shaded areas for a picnic at the picturesque Kyneton Racecourse.

More details on this new event, organised by Amateur Radio Victoria, Central Goldfields ARC and Midland ARC, can be found at the website http://radiofest.amateurradio.com.au/

Watch out for an advertisement in the April edition of Amateur Radio magazine.

RAAF SIGNALS & RADAR ASSOCIATION OF SA

The annual luncheon will be held on

Thursday 19 April 2007

(12 noon for 12.30 lunch)

(Please bring your Seniors Card)

***Venue*: Marion Hotel, Marion Road, Mitchell Park**
Public Transport Bus 243, Stop 24

RSVP to one of following committee members before 15/4/07
***Secretary*: Ray Deane (VK5RK) Ph 82715401**
***Assistant Secretary*: Ron Coat (VK5RV) Phone 8296 6681**

Ray Deane
Honorary Secretary

"Hey, Old Timer..."

If you have been licensed for more than 25 years you are invited to join the

Radio Amateurs Old Timers Club Australia

or if you have been licensed for **less than 25 but more than ten years**, you are invited to become an **Associate Member** of the RAOTC.

In either case a **$5.00** joining fee plus **$8.00** for one year or **$15.00** for two years gets you two interesting OTN Journals a year plus good fellowship.

Write to
RAOTC,
PO Box 107
Mentone VIC 3194
or call Arthur VK3VQ on **03 9598 4262**
or Bill VK3BR on **03 9584 9512**,
or email to raotc@raotc.org.au
for an application form.

Gridsquare Standings at 2 February 2007

144 MHz Terrestrial

VK2FLR	Mike	113
VK3NX	Charlie	106
VK2KU	Guy	102
VK3KAI	Peter	84
VK2ZAB	Gordon	78 SSB
VK3HZ	David	76
VK2KU	Guy	69 SSB
VK3PY	Chas	69 SSB
VK2DVZ	Ross	68 SSB
VK3CY	Des	68
VK2TK	John	62
VK3EK	Rob	62 SSB
VK3QM	David	58 SSB
VK7MO	Rex	58
VK3BJM	Barry	55 SSB
VK2EI	Neil	54
VK3TMP	Max	53
VK3BDL	Mike	51 SSB
VK3ZLS	Les	51 SSB
VK3KAI	Peter	50 SSB
VK3WRE	Ralph	50 SSB
VK2DXE	Alan	47
VK2KU	Guy	47 Digi
VK3CAT	Tony	46
VK4TZL	Glenn	45
VK2DXE	Alan	43 SSB
VK5BC	Brian	43 SSB
VK3VG	Trevor	41 SSB
VK7MO	Rex	39 Digi
VK7MO	Rex	38 SSB
VK4CDI	Phil	37
VK3KAI	Peter	36 Digi
VK2TK	John	35 SSB
VK4KZR	Rod	35
VK3ZUX	Denis	33 SSB
VK6HK	Don	33
VK2KOL	Colin	32 SSB
VK2MJS	Mark	31 SSB
VK3DMW	Ken	31
VK3ZYC	Jim	31
VK4CDI	Phil	30 SSB
VK3VHF	Rhett	29 SSB
VK2KRR	Leigh	28 FM
VK3CJK	Chris	28 SSB
VK2EAH	Andy	27
VK2TK	John	27 Digi
VK1WJ	Waldis	26
VK2TG	Bob	26 SSB
VK3ACC	Gordon	26 SSB
VK4DFE	Chris	26 SSB
VK5ACY	Bill	26 SSB
VK3BBB	Brian	25
VK5BC/p	Brian	25 SSB
ZL3TY	Bob	24
VK3TLW	Mark	23 SSB
VK3YB	Phil	23
VK4EME	Allan	23
VK3HV	George	21 SSB
VK1WJ	Waldis	20 Digi
VK3BG	Ed	20 SSB
VK6KZ	Wally	20
VK3AL	Alan	18 SSB
VK3UDX	Geoff	17 SSB
VK4TJ	John	17 SSB
VK2EAH	Andy	16 SSB
VK4CDI	Phil	16 Digi
VK4EME	Allan	16 Digi
VK6KZ/p	Wally	16
VK3ZYC	Jim	14 SSB
VK2CZ	David	12
VK7ZSJ	Steve	12
VK2EAH	Andy	11 Digi
VK2EI	Neil	11 Digi
VK3VHF	Rhett	11 Digi
VK2DXE/p	Alan	10
VK3ANP	David	10
VK4EME	Allan	9 SSB
VK6DXI	Mirek	6
VK6HK	Don	6 Digi
VK1WJ	Waldis	5 SSB
VK2TWO	Andrew	5
VK3ZDR	David	5 SSB
VK1WJ	Waldis	4 CW
VK2DXE	Alan	3 Digi
VK3QM	David	1 Digi

144 MHz EME

VK2KU	Guy	232
ZL3TY	Bob	208
VK2KU	Guy	202 Digi
VK7MO	Rex	154 Digi
VK2FLR	Mike	120
VK3AXH	Ian	89 Digi
VK3CY	Des	70 CW
VK2AWD	Dave	52 Digi
VK4CDI	Phil	48 Digi
VK2KU	Guy	39 CW
VK2KRR	Leigh	30
VK3HZ	David	17
VK3VHF	Rhett	13 Digi
VK3NX	Charlie	5
VK4EME	Allan	4 Digi
VK2DVZ	Ross	2
VK2DXE	Alan	2
VK3AXH	Ian	2 CW
VK3AXH	Ian	1 SSB

432 MHz Terrestrial

VK2ZAB	Gordon	57 SSB
VK3PY	Chas	50 SSB
VK3NX	Charlie	48
VK3QM	David	47 SSB
VK3ZLS	Les	40 SSB
VK2KU	Guy	38
VK3HZ	David	36
VK2KU	Guy	34 SSB
VK3EK	Rob	34 SSB
VK3BJM	Barry	33 SSB
VK2DVZ	Ross	32 SSB
VK3CY	Des	32
VK3KAI	Peter	29
VK3BDL	Mike	28 SSB
VK3KAI	Peter	28 SSB
VK3WRE	Ralph	27 SSB
VK3TMP	Max	25
VK5BC	Brian	21 SSB
VK7MO	Rex	20
VK3UDX	Geoff	19 SSB
VK2TK	John	18
VK7MO	Rex	18 SSB
VK2TK	John	17 SSB
VK3CAT	Tony	16
VK3TLW	Mark	15 SSB
VK3ZUX	Denis	15 SSB
VK3BG	Ed	14 SSB
VK4KZR	Rod	14
VK5BC/p	Brian	14 SSB
VK4TZL	Glenn	13
VK6KZ	Wally	13
VK2KOL	Colin	12 SSB
VK4CDI	Phil	12
VK4CDI	Phil	12 SSB
VK2KRR	Leigh	11 FM
VK3AL	Alan	10 SSB
VK3ANP	David	10
VK3YB	Phil	10
VK2MJS	Mark	9 SSB
VK2TG	Bob	9 SSB
VK3BBB	Brian	9
VK3VHF	Rhett	9 SSB
VK4DFE	Chris	9 SSB
VK3CJK	Chris	8 SSB
VK4TJ	John	8 SSB
VK6KZ/p	Wally	8
VK7MO	Rex	7 Digi
VK2FLR	Mike	6
VK6DXI	Mirek	6
VK2KU	Guy	5 Digi
VK3HV	George	5 SSB
VK1WJ	Waldis	4 SSB
VK3KAI	Peter	4 Digi
VK3PY	Chas	4 Digi
VK3QM	David	4 Digi
VK3ZYC	Jim	4 SSB
VK4EME	Allan	4 SSB
VK2CZ	David	3
VK2TWO	Andrew	3
VK3DMW	Ken	3
VK3VHF	Rhett	3 Digi
VK2DXE/p	Alan	2
VK4CDI	Phil	2 Digi
VK2EAH	Andy	1 SSB
VK2TK	John	1 Digi

432 MHz EME

VK4KAZ	Allan	14 CW
VK7MO	Rex	10
VK7MO	Rex	9 Digi
VK2SN	Sean	6 Digi
VK4CDI	Phil	6 Digi
VK3NX	Charlie	5
VK3HZ	David	4
VK2KRR	Leigh	1
VK3AXH	Ian	1 Digi

1296 MHz Terrestrial

VK3QM	David	38 SSB
VK3PY	Chas	37 SSB
VK3NX	Charlie	35
VK2ZAB	Gordon	29 SSB
VK3ZLS	Les	26 SSB
VK2KU	Guy	25
VK2KU	Guy	22 SSB
VK3EK	Rob	20 SSB
VK3KAI	Peter	20
VK3KAI	Peter	19 SSB
VK3KWA	John	19
VK2DVZ	Ross	18 SSB
VK3WRE	Ralph	17 SSB
VK3BDL	Mike	14 SSB
VK3BJM	Barry	13 SSB
VK3HZ	David	13
VK3TMP	Max	11
VK7MO	Rex	11 SSB
VK2TK	John	10 SSB
VK3BG	Ed	10 SSB
VK3UDX	Geoff	10 SSB
VK4KZR	Rod	10
VK3TLW	Mark	8 SSB
VK3AL	Alan	7 SSB
VK4TZL	Glenn	6
VK2CZ	David	5
VK3HV	George	5 SSB
VK3ZUX	Denis	5 SSB
VK3ZYC	Jim	5
VK4TJ	John	5 SSB
VK6KZ/p	Wally	5
VK2KRR	Leigh	4
VK3BVP	Shane	4
VK3VHF	Rhett	4 SSB
VK3YB	Phil	4
VK3ZYC	Jim	4 SSB
VK4CDI	Phil	4
VK6KZ	Wally	4
VK2KU	Guy	3 Digi
VK3BBB	Brian	3
VK4CDI	Phil	3 SSB
VK6DXI	Mirek	3
VK2DXE/p	Alan	2
VK2FLR	Mike	2
VK3CJK	Chris	2 SSB
VK3CY	Des	2
VK3DMW	Ken	2
VK3KAI	Peter	2 Digi
VK3QM	David	2 Digi
VK3ZYC	Jim	1 Digi
VK4CDI	Phil	1 Digi
VK5BC	Brian	1 SSB
VK7MO	Rex	1 Digi

1296 MHz EME

VK7MO	Rex	25
VK7MO	Rex	22 Digi

2.4 GHz

VK3PY	Chas	14 SSB
VK3QM	David	14 SSB
VK3NX	Charlie	13
VK3WRE	Ralph	10 SSB
VK3KAI	Peter	7 SSB
VK3EK	Rob	5 SSB
VK3HZ	David	5
VK3HV	George	4 SSB
VK6KZ	Wally	4
VK3BJM	Barry	3 SSB
VK3KAI	Peter	2 Digi
VK3VHF	Rhett	2 SSB
VK4KZR	Rod	2
VK2DVZ	Ross	1 SSB
VK3BG	Ed	1 SSB
VK3TLW	Mark	1 SSB
VK3ZUX	Denis	1 SSB
VK4TZL	Glenn	1

3.4 GHz

VK3NX	Charlie	11
VK3QM	David	9 SSB
VK3WRE	Ralph	7 SSB
VK3KAI	Peter	6 SSB
VK3HV	George	4 SSB
VK6KZ	Wally	4
VK3EK	Rob	3 SSB
5.7 GHz	Terrestrial	
VK3NX	Charlie	12
VK3WRE	Ralph	9 SSB
VK3QM	David	8 SSB
VK3KAI	Peter	7 SSB
VK6KZ	Wally	4
VK3BJM	Barry	2 SSB
VK3EK	Rob	2
VK3HV	George	2 SSB
VK3KAI	Peter	2 Digi
VK6BHT	Neil	2 SSB
VK3ZUX	Denis	1 SSB
5.7 GHz	EME	
VK3NX	Charlie	7

10 GHz

VK3NX	Charlie	11
VK3QM	David	11 SSB
VK3KAI	Peter	9 SSB
VK3PY	Chas	9 SSB
VK3WRE	Ralph	9 SSB
VK6BHT	Neil	9 SSB
VK3EK	Rob	5 SSB
VK6KZ	Wally	5
VK3HV	George	4 SSB
VK3HZ	David	4
VK3TLW	Mark	3 SSB
VK3ZYC	Jim	3 SSB
VK5ACY	Bill	3 SSB
VK2EI	Neil	2 SSB
VK3BJM	Barry	2 SSB
VK3DMW	Ken	2
VK3ZUX	Denis	2 SSB
VK7MO	Rex	2
VK3BG	Ed	1 SSB
VK4KZR	Rod	1
VK4TZL	Glenn	1

24 GHz

VK6BHT	Neil	3 SSB
VK2EI	Neil	2 SSB
VK3NX	Charlie	2
VK6KZ	Wally	2

474 THz

VK3CJK	Chris	3
VK3HZ	David	2
VK7MO	Rex	2
VK7TW	Justin	2
VK7HAH	Ben	1 Digi
VK7MO	Rex	1 Digi
VK7TW	Justin	1 Digi

Additions, updates and requests for the guidelines to Guy VK2KU, vk2ku@clearmail.com.au, or by mail (QTHR 2005).

The guidelines (and the latest League Table) are also available on the website of the NSW VHF Dx Group at www.vhfdx.radiocorner.net - click on Gridsquares.

Next update of this table will be in early May 2007.

Stations who do not confirm their status for more than 12 months may be dropped from the table.

ar

Mountains of Fun!

VHF-UHF Summer Field Day 2007

Andy Sayers VK2AES

The 2007 Summer VHF-UHF Field Day Contest took place on the 13th and 14th of January, and a group of amateurs, mainly employees of CEA Technologies in Canberra, took to the hills to compete using the callsign VK1CEA.

There is growing interest in the VK1 area in operating portable for field day contests, which is great for the hobby, but it means there is fierce competition for the best locations from which to operate! Greg VK1AI, and Ted VK1BL, operated from Mount Coree, west of Canberra in the 2006 Spring Field Day (see Greg's article in the December issue of AR), and they were happy to let us have a turn at operating from this spot for the summer contest.

Mount Coree is located about 25 km west of Canberra and is 1420 m above sea level. It's not the highest peak in the ACT but it is a fantastic site for radio, as it has an unobstructed view in all directions and is completely bare of trees, which can be very lossy on the UHF and microwave bands. Another important factor is the absence of any high power transmitters or repeaters on the mountain which can wreak havoc by causing interference or desensitising receivers.

After loading up all the gear on Saturday morning, we headed for the hills and made our way up the rough 4WD track to the summit, where we were greeted by a friendly fellow who was manning the fire tower (I want his job!). The area was severely burnt in the 2003 bush fires and is showing signs of recovery, but is still extremely dry.

After setting up the antennas and some shelter from the sun, we made our first round of contacts with the Canberra locals and the other portable stations in the region. All had needle-bending signal strengths! Later in the afternoon it was time to setup for a "sched" with some locals on the microwave bands. We had only very basic equipment (literally micro-watts of power), but the extra points to be gained from contacts at higher frequencies made it very attractive. By this time the easterly wind had whipped up and it made holding a dish antenna steady quite an act of strength and endurance! After more than an hour of tweaking the equipment, we finally made CW and then SSB contact with VK1DOH and VK1BLM, 33 km away, on 2.4 GHz and 3.4 GHz. Attempts at contacts on 5.7 GHz and 10 GHz were unsuccessful. Next time we hope to have a bit more power and antenna gain.

By evening, the strong easterly breeze had brought in moist air from the coast and we found ourselves enveloped in cloud. The temperature dropped to about 7° C and everything was dripping wet! Some medicinal beverages helped to ease the shivering, and we took advantage of the improving propagation conditions to work some more distant stations in VK3 and on the central coast of NSW. By about midnight we decided it was time to climb into our swags and get some sleep.

We woke at dawn to see the sun emerging from a sea of cloud a few hundred feet below us, and not a breath of wind. We spent quite a while soaking up the view and taking photographs before we even thought about boiling the billy or turning on the radios. I think we were all mesmerised by the sheer beauty and tranquillity.

Most of the other portable stations were up early too and provided plenty of activity for us as we ate our breakfast. As more stations began to appear at increasing signal strengths, it became clear that some tropospheric enhancement was brewing - you can clearly see the duct caused by a temperature inversion in Photo 3. As the morning progressed we

continued on page 29

Australian Radio Industries
Pty. Ltd.

Servicing Commercial, Amateur & CB Radio Applications

CURRENT CABLE PRICES

ARI RG213/U MIL-C-17D -	$180.00/100m
ARI RG58C/U MIL-C-17D -	$60.00/100m
ARI RG59B/U MIL-C-17D -	$80.00/100m
RG-223 -	$6.60/m
RG-174 -	$1.00/m
Times LMR-240 -	$3.40/m
Times LMR-400 -	$5.00/m
Times LMR-400 Ultraflex -	$8.50/m
Times LMR-600 -	$9.90/m
Times LMR-600 Ultraflex -	$14.00/m
LDF5-50 7/8" HELIAX -	$9.95/m
LDF4-50 1/2" HELIAX -	$4.95/m
300 ohm Ladderline -	$1.50/m
450 ohm Ladderline from -	$2.40/m
7 Core Control / Rotator cable -	from $2 /m
8 Core Control / Rotator cable -	$2.70/m

All Coax Cable Connectors & Adaptors Available
Brands Incl. Link, Radiall, Amphenoll, Times, Andrew, RFS

VARIOUS ANTENNAS

Rojone 477Mhz 12dBi vertical -	$250
ARI Fibreglass 5/8w 2m whip -	$16 ea
ARI Stainless 5/8w 2m whip -	$35 ea
ARI Fibreglass 4.5db 70cm whip -	$12 ea
ARI Stainless 4.5db 70cm whip -	$15 ea
2m 1/4w whips from -	$16 ea
70cm 1/4 whips from -	$10 ea

All antennas available from
Rojone, HY-GAIN, Diamond, Valor, Comet, Larsen, Cushcraft, Create, M2, Butternut, Alpha Delta, Force 12

Many antennas will be available from ARI soon
HF / VHF / UHF YAGIS, VERTICALS, QUADS, WIRE ANTENNAS

VARIOUS PRODUCTS & ACCESSORIES

3mm Dacron UV/Rot proof rope -	$0.65/m
5mm Dacron UV/Rot proof rope -	$0.85/m
3M Scotch 23 Self Amulgamating tape - $20/roll	
W2AU 2Kw Hi Power Antenna Baluns from - $50 ea	
W2DU 10Kw Hi Power Antenna Baluns from - $60 ea	
2.00mm HD COPPER WIRE - $35/kg (35M per kilo)	
1.60mm HD COPPER WIRE - $30/kg (58M per kilo)	
COAX SEAL PUTTY -	$8.00/roll
SO-239 Dipole centres -	$20.00 ea
450ohm Dipole centres -	$20.00 ea
Antenna insulators ceramic & PVC from - $1 ea	

AMERITRON LINEAR AMPLIFIERS

AL-811AX 600W - $1300 AL-811HX 800W - $1699
AL-572X 1300W - $2100 AL-80BX 1KW - $1995
AL-1200X 1.5KW - $3299
ALS-500MX 500W Mobile - $1399
All amplifiers come standard with 28Mhz !
Mirage amplifiers also available to order

"HOT" ANTENNA ROTATOR DEALS

Yaesu G450A - $599 Yaesu G-800DXA - $895
Yaesu G-1000DXA - $1000
HYGAIN AR35 Light duty - $190.00
All Yaesu and HY-GAIN rotators available

DAIWA VHF/UHF SWR/PWR METERS "DISCOUNTED"
CN-103L VHF/UHF - Normally $209 **NOW** $175.00
CN-801V VHF/UHF deluxe unit - Normally $329
NOW $280.00

PAY BY - MASTERCARD, VISA
Disclaimer: Prices subject to change without notice
All Prices inclusive of G.S.T.
"SOMETHING NOT LISTED? CALL NOW !!"
For all MFJ, Ameritron, HY-GAIN, Mirage products
Refer to the MFJ website - www.mfjenterprises.com
Trading Hrs: Mon - Fri 8am - 530pm
Ph: (02) 4887 7504 BH FAX (02) 4887 7504
EMAIL: sales@arindustries.com.au

Andrews Communications Systems

ANDREWS TS-5118

$99

Factory direct importer

2 m 2 W HANDHELD

- Commercial quality
- 100 ch. memory
- Scanning searching
- AC plug pack
- NiCad battery
- Compact

✸ ONE YEAR WARRANTY ✸

ANDREWS FD-160A

$129

Factory direct importer

2 m 5 W HANDHELD

- Commercial quality
- 99 channel memory
- Scanning CTTCSS
- DCS + Reverse Repeater
- AC plug pack
- NiCad battery, etc

✸ ONE YEAR WARRANTY ✸

AUSTRALIA'S LARGEST AMATEUR RADIO DISCOUNTER

EST. 1976 30TH ANNIVERSARY SALE

COMPARE!

YAESU FT-857D $1199

HF + 6 m + 2 m + 70 cm + DSP

BONUS TS-5118 2m 2W handheld

ICOM IC-7000 $1999

HF + 6 m + 2 m + 70 cm + DSP + colour!

Factory direct importer

✸THREE YEAR WARRANTY✸

ALINCO DR-635T $599

NEW TWIN BAND MOBILE!

YAESU

NEW VX-6R Dual band Handheld	$429
VX- 2R Tiny dualband H/H	$329
FT-1802M 50W 2 m Mobile	$279
VX-7R Deluxe Tri band Handheld	$529
FT-60R Dual band Handheld	$329
VX-170 2m 5W handheld	$269
FT-817ND HF–70 cm Portable	$949
FT-857D HF–70 cm	$1199
FT-897D HF–70 cm	$1299
FT-2800M 2 m Mobile	$299
FT-7800R Dual band Mobile	$399
FT-8800R Dual band Mobile	$599
FT-8900R Quad band Mobile	$699
VR-120D Scanner w/SOFT CASE	$249
VR-500 All Mode Handheld Scanner	$399
Yaesu antenna tuners & rotators discounted	
FC- 20 ATU $399.00 FC-30 ATU	$399
FC-40 ATU $399.00 FP-30 P/S	$439

✸FIRST WITH THREE YEAR WARRANTY✸

ANDREWS 2780 $499
Twinband Mobile 50W/35W etc

ICOM

NEW IC-P7A Tiny DualBand H/heldd	$329
IC-706 MKIIG HF w/BONUS 2m HH	$1399
IC-718 HF 100 W	$999
IC-746Pro-or-IC-7400 HF 2m ea	$2699
IC-V82 NEW 7W 2 m Handheld	$299
IC-756Pro III HF– 6 m	$4499
IC-T90A Triband handheld	$419
IC- 208H Dual band Mobile	$549
IC- 2720 Dual band Mobile	$649
IC- 2200H 2 m 50 W Mobile	$329
IC-V8000 2 m Mobile	$349
IC-910H 2 m–70 cm SSB w/BONUS DSP	$2199
IC-R3 Handheld Scanner with TV	$699
IC-R5 Handheld Scanner from	$299
IC-R20 Deluxe Handheld Scanner	$679
IC-R1500, IC-R2500, IC-PCR1500, IC-PCR 2500	
IC-AH4 Automatic Tuner	$479
IC-AT180 Automatic Tuner	$599

ANDREWS 808 $279
Highpower 75W 2m Mobile

ALINCO

DJ-C7 Mini Dual band Handheld	$299
DJ-596E MKII Dual band Handheld	$299
DJ-V5E Dual Band Handheld	$399
DR-135T Mk3I 2 m Mobile	$299
DR-435E UHF Mobile	$349
DJ-V17 5 W, 2 m H/H with DTMF etc	$199
DJ-X7 Wideband H/H scanner	$299
DX-70TH HF–6 m Transceiver	$1199
DX-77E HF 100 W Transceiver	$1399
DJ-X3 Tiny Handheld Scanner	$229
DJ-X10 All mode Handheld Scanner	$499
DJ-X 2000E Deluxe H/heldd Scanner	$679
EDX-2 Auto Tuner	$399
DM-330MVZ 3 2 A Power Supply	$369

KENWOOD

TH-F7E Dual band Handheld	$549
TM-V708A Dualband remote mobile	$649
TM-D700A Dual band Mobile	$849
TM-G707A Dual band Mobile	$499
TS-480HX HF+ 200 W 6 m+100 W	$1999
TS-480SAT HF–6 m 100 W+ATU	$1799
TS-570SG HF–6 m 100 W+ATU	$1799
TS-2000 HF–70 cm	$ 2699
TM-271A 2 m 60 W Mobile	$299

✸FIRST WITH THREE YEAR WARRANTY✸

- LATEST WIRELESS WEATHER STATIONS WITH LARGE LCD DISPLAY—$49 and $99 each
- DIGITAL MULTIMETERS FROM $5 • POWER SUPPLIES 20A-$149, 30A-$199, 60A-$499
- MASSIVE STOCKS OF ANTENNAS OF ALL KINDS • DUALBAND ANTENNA $39
- OSCILLOSCOPES to 100MHz • LDG TUNERS • SPECTRUM ANALYSERS to 2.9GHz

— LINEAR AMPLIFIERS —
TOKYO HY-POWER, ANDREWS, TE, PALOMAR, AMERITRON, YAESU, ICOM
— ALL DISCOUNTED —

— AUTOMATIC ANTENNA TUNERS —
LDG, YAESU, ICOM, TOKYO, HY-POWER
BEST RANGE OF SCANNERS IN AUSTRALIA
BEST PRICES TELESCOPES & BINOCULARS

NEW! ANDREWS HIGH CAPACITY REPLACEMENT BATTERY PACKS FOR YAESU, ICOM, ALINCO, KENWOOD!

ANDREWS COMMUNICATIONS SYSTEMS
(02) 9636 9060 9688 4301

SHOP 8 41 Bathurst Street
Greystanes NSW 2145
Fax 9688 1995
www.andrewscom.com.au

MAIL ORDER SPECIALISTS SINCE 1976

Photo 1 The view to the west at sunset

Photo 2 The campsite enveloped in cloud

Photo 3 Sunday morning

Photo 4 Sunrise

made some pretty remarkable contacts, including to VK2DVZ in Taree on 23 cm (518 km), VK2KWM and VK2IF in far northern NSW on 2 m and 70 cm (nearly 600 km), and to far north Queensland on 6 m (over 2000 km). The 6 m propagation was probably sporadic E.

To top it all off, after the contest finished we had a half hour rag-chew on 1296 MHz with the VK3UHF guys 515 km away! Who says you can only rag-chew on 80 m!

There's heaps of fun to be had by getting out into the field and joining in one of the field day contests. You don't need lots of fancy equipment, in fact most modern multi-band transceivers are all you need for operating 6 m, 2 m and 70 cm, along with some simple antennas. Just find a bit of high ground and give it a go! If you can't get out into the field then get on the air from the home QTH and give the portable stations a few points. Remember, our VHF and UHF bands are valuable bits of spectrum; so "use them or lose them"!

ar

Photo 5 The campsite and antennas

VK2

Tim Mills VK2ZTM
Via vk2wi@ozemail.com.au

Clubs

The Coffs Harbour and District ARC field day held last January was well attended. 102 registrations plus exhibitors were logged. A warm day was made pleasant by a good breeze through the hall, which was full of traders, disposals and displays. There were traders from Melbourne, Sydney, Brisbane and the North Coast. Groups included WIA, WICEN, ALARA and the Oxley Region club. It was interesting to note that activities at these events are changing. Most like to arrive early, well before the official start and then leave early – by lunchtime. Most like to observe and hassle the traders, partake of the food source and talk to those not seen since last time. What is not attracting much interest these days are field events, even scrambles and brain testers like quiz papers. Event organiser was Gary VK2ZKT, who promises a bigger and better event next year; to be possibly held at an even larger venue.

Last month the Central Coast ARC held its annual field day at the Wyong Racecourse. Next month, over the Easter period, the annual Urunga Convention will be held in the village of Urunga, on the NSW Mid North Coast. It starts on Saturday the 7th April and concludes on Sunday, the 8th. It is held in the local Progress Hall and there is time for field events like fox hunts and the famous Urunga Scramble on the Sunday morning. For details, seek out Arnold VK2ADA or Ken VK2DGT. Still on the North Coast of NSW, the June long weekend is the turn of the Oxley Region ARC, at Port Macquarie, to hold their two day event.

This month, the Karuah Valley Radio Group – they are just north of Newcastle - have exams on the weekend 17/18th. Contact Grahame VK2FA 02 4954 8688.

Westlakes ARC have exams on the first and fourth weekend in March. Contact Keith VK2PKT vk2pkt@hotmail.com telephone 0402 338 948. Hornsby and District ARC have the full range of exams – contact Tony VK2BTL 02 9487 3383. Blue Mountains ARC – contact the Secretary Daniel VK2DC by email secretary@bmarc.org . Central Coast ARC at foundation@ccarc.org.au . Any other groups currently conducting exams? Please advise the ARNSW office vk2wi@ozemail.com.au or use the contacts at the end of these notes.

Emergency Communications

WICEN in its current form has been about since 1955, when it was decided to form an organised body to provide Amateur Radio assistance to authorities in their time of need. The first name was CDEN – Civil Defence Emergency Network. About the same time, the authorities were setting up the SES. At a national training operation held in Victoria that year, the Amateurs in attendance felt the name CDEN was too similar to SES and instituted the change to WICEN – Wireless Institute Civil Emergency Network. Over the years, the various States have developed their WICEN to suit the local environment. In VK2, it moved away a bit – along with a slight name change – to take advantage of the facilities available by association with other emergency bodies like the VRA. In more recent times, the NSW authorities have been creating their own emergency bodies, using their own agencies, (Fire Brigade, Ambulance, etc and Rescue) along with their own communication networks. Greg VK2GRJ has watched this transformation and is concerned that the Amateur Radio Service in VK2 is likely to be sidelined. He had investigated and floated AREN – Amateur Radio Emergency Network – where he has tried to get direct Government acknowledgement of the part that the Amateur Radio Service could play in emergency communication, if the need arose. The government communication network is fine as long as no one digs up the 'fibre'. There are already many tiers of established government emergency management structures, which - except in a few cases - have no Amateur involvement. You will not be noticed or known without being involved. If you wish to know more about these emergency management organisations, contact Barry VK2AAB.

ARNSW

In the February notes, clarification of the opening date of the VK2WI building in 1957 was sought. Michael VK2YC has been able to verify with a dated photo of the event that it was on Sunday the 19th May 1957. The plaque at Dural indicates the date as the 15th. An error, one can assume in a hand written layout for the plaque, where the written script in those days formed 5 and 9 in a similar style.

The AGM for ARNSW will be held on Saturday the 14th April 2007 at the West Ryde Leagues Club. Nominations and agenda items closed on Saturday the 3rd March. The paperwork is currently being prepared and will be sent to ARNSW members later in the month. Some members have previously opted to receive paperwork by email. Now is the time for them to confirm their email address – as many do change. Please do this by sending your current details to vk2wi@ozemail.com.au if you wish to use this method of delivery.

The next Trash and Treasure will be at the Dural site – 63 Quarry Road – on Sunday the 25th March. Start time about 11 a.m. It is followed by a sausage sizzle lunch and, in the afternoon, by the Home Brew and Experimenters Group. It will still be a while until the T&T has their shed. At the start of the recent holiday break, the local Council required more paperwork, this time a plan of the tree profile of those near the proposed shed. While waiting for the shed, the ARNSW Council is looking towards the expansion of, or additions to, the existing building, which houses the transmission facilities. This development would be to provide some of the facilities which were part of the previous headquarters properties. The NSW Division – now trading as AR NSW – acquired the Dural property in 1955. They purchased the first headquarters at

14 Atchison Street, St. Leonards in 1959 and sold it in 1982. The Division acquired the 109 Wigram St. Parramatta property in 1982 and sold it in 2006. This month is also the ninety seventh anniversary of the founding of the Institute in Sydney in 1910.

A memo to VK2 Clubs and Groups that VK2WI News with its state-wide coverage is available to promote your activities to the wider audience. Many already use the service. If your group does not, remind your publicity officer. Have them send items to the News Compiler Brian VK2TOX via the ARNSW email address. The text of VK2WI news, as well as other ARNSW information, is to be found on the web site.

The next round of exams provided by ARNSW is scheduled for the weekend of April 28 and 29th. For inquiries and bookings - contact the office by phone 02 9689 2417, fax 02 9633 1525, mail to P. O. Box 9432 Harris Park 2150 or email vk2wi@ozemail.com.au . Application forms can be downloaded from the web site.

Details of other group's exams, as advised, appear on the ARNSW web site: http://www.arnsw.org.au/ .

73 – Tim VK2ZTM.

VK2 Silent keys

Ian Dunlop VK2AVS	Murwillumbah
Sir Allan Fairhall KBE VK2KB	Newcastle
Lawrence Kennedy VK2TKJ	Mortdale Heights
Raymond Nelson Fry VK2FRY	Chatswood
Michael Roll VK2HMR	Balmain

VK3

Amateur Radio Victoria News

Website: www.amateurradio.com.au
Email: arv@amateurradio.com.au
Jim Linton VK3PC

QSL cards unclaimed

The VK3 QSL Bureau is one of the most efficient but a continuing disappointment for the volunteers who sort incoming cards are the QSLs that don't reach their intended destination.

Clearly the majority of those radio amateurs who are not registered with the Bureau don't want the cards, which number in their hundreds. When approached individually in the past, they often state having no interest whatsoever in QSLing.

However, a new opportunity exists to try and minimise the number of unclaimed cards. Those involved with the Bureau operations will be at the Centre Victoria RadioFest at Kyneton next month to answer any questions, provide information packs and assist with registrations on the spot.

New logo

Work has begun on producing a new logo for Amateur Radio Victoria. A graphic designer has been asked to create a logo that incorporates our traditional wings and lightning bolt, and a map of Victoria.

Since its founding in November 1911, the organisation has had four logos, or 'badges', 'emblems' or 'motifs' as they are also known in earlier days.

The first featured a spark gap, the next adopted a version of the 'wings' – often believed to have been derived from army wireless or signal units. Currently the logo is similar to that of the Wireless Institute of Australia.

The state-wide organisation Amateur Radio Victoria, as part of the necessary transition processes associated with the WIA becoming a national body, is now seeking a new logo to better reflect its identity.

The logo will seek to preserve the essential heritage elements of its current logo yet become a distinctive, fresh and readily recognisable new brand mark.

Licence classes

The next weekend Foundation Licence training and assessment weekends at Box Hill North will be on 17 and 18 March, and 14 and 15 April.

These popular sessions have assisted many since November 2005 to enter the hobby through its entry level licence.

The trainers are Mark Forsyth VK3ZMF and Kevin Luxford VK3DAP. Supporting them is an Education Team lead by Barry Robinson VK3JBR with a pool of assessors.

Inquiries and enrolments are handled by Barry VK3JBR on 0428 516 001 or arv@amateurradio.com.au

Thank you to those who are directing prospective radio amateurs to the classes.

The "Calling CQ..." brochure issued by the WIA last month will assist anyone to easily promote amateur radio.

Waffle award winners

The Welcome Aussie Foundation Licensees award period ended on Australia Day, 26 January 2007.

Claims have so far been received from Andre Jones VK3AJR, Ron Hanel VK3FAHR, John Lovell VK3FELA, Cohen Lewis VK3FCLL, Peter Dernikos VK3FGRC, Paul Brown VK3HJU, Ashley Clark VK3SSB, Terry Murphy VK3UP, David Rose VK5FDMR, John Nieuwenhuizen VK5NJ and Iain Harrison ZL1KK.

It's good to see so many new radio amateurs making this their first amateur radio operation award. The award certificate is a little way off but will be sent to all who make a valid claim for it.

F-Troop net

Continuing strongly is the F-Troop weekly Sunday net mainly for new licensees held at about 11.40 am through the Mt Macedon 2-metre repeater VK3RMM immediately after the broadcast callback.

The rostered net controller, Ross Pittard VK3FCE, Keith Proctor VK3FT or Terry Murphy VK3UP, provides information of interest and answers questions.

News from...

VK5

Adelaide Hills Amateur Radio Society

Christine Taylor VK5CTY

Not a lot happens within our club during the festive season. But we will be into the swing of things very soon.

Our New Year Barbecue was another one to remember, but for exactly the opposite reason to last year's function. Last year, the barbecue was held on a day when the temperature was 42° C. This year, after several days at close to that temperature, the day of the actual barbecue was one of torrential rain! It was unbelievable that there could be such a contrast from one year to another.

Nevertheless, regardless of the weather, over 50 people were there and everyone claimed to have had a good time. Barry VK5ZBQ and his XYL Shirley were our hosts, and although the two gazebos with a tarpaulin between them let us down when the rain really bucketed, Barry's shed is large enough to accommodate those that didn't risk a drenching.

Luckily there was ample room for two hot plates to be running continuously well under cover, and after the food was cooked, by covering at least one of the barbecues, we had sufficient table space.

The weather certainly gave everyone a topic for conversation. After the drought, we were all delighted to see and smell some rain.

In February, we will have had our AGM followed by a couple of short talks, and in March we have the Members' Buy and Sell, where all the items that did not sell, or were bought and are now not needed, change hands again.

A varied program of speakers has been arranged for the rest of the year. If you are visiting Adelaide on the third Thursday of the month, you are welcome to come to a meeting. They start at 7.30 / 8.00 pm, and are held in the Belair Community Hall at the top of the Old Belair Road. Please contact the President, Jim VK5NB, or John VK5EMI, the manager of our website, for more information.

Please accept my apology for the incorrect callsign in the caption to the picture in the bottom right hand corner of the AHARS notes on page 37 on the February AR. The YL's name is Ash and her callsign is VK5FASH.

Yes, Barry's shack was well used! Barry is in the centre, Sasi VK5SN on the left and on the right, Steve VK5AIM.

VK7

Justin Giles-Clark, VK7TW
Email: vk7tw@wia.org.au Regional Web Site: http://www.reast.asn.au/

It was great to see Barry Fraser VK7FR interviewed on the ABC Stateline program celebrating the first 50 years of ABC TV in Tasmania. Barry spoke the first words on television in Tasmania and those dulcet tones still permeate the amateur radio waves HIHI.

The "Sewing Circle Net" is sponsoring a "Meet The Voice" BYO BBQ at the Ross Caravan Park on Sunday March 18, 2007, and invites ALL amateurs statewide to attend and take the opportunity of meeting fellow members. The invitation is extended particularly to amateurs who have joined our hobby in recent times. Registration is from 10:30 am, BPL discussion at 11:30 am and BBQ at 12:30 pm. A cover charge of $5.00 per amateur will be used to cover costs and any surplus will go to Repeater maintenance funds throughout the state.

2006 VK7 Regional News Callbacks Explode

Overall, across all of the 14 VK7 broadcast frequencies and repeaters, there has been a 28.2% increase in amateurs calling back after the VK7 Regional News Broadcast. This means that on average 102 amateurs each Sunday call in on a repeater, MF, HF or CB frequency. This increase can be

mainly attributed to a 48% increase in the number of MF and HF callbacks. In 2006, there were over 5300 callbacks recorded, thanks to John VK7JK. More details and charts for the last six years are available at: http://reast.asn.au/archive.php

North West Tasmanian Amateur Radio Interest Group

The 6 m Repeater VK7RNW has been returned to its normal home at Lonah following repairs. World Wide Amateur Radio News is available for listeners on the Central Coast and around the Ulverstone area on 147.400 MHz FM simplex, repeater VK7RNW on 53.825 MHz and ATV frequencies. The NWTARIG AGM was held on February 3 with the following elections – President, Tony Bedelph VK7AX, Vice President, Ivan Ling VK7XL, Secretary, Stephen Bush VK7EQ, Treasurer, Shirley Hardstaff VK7HSC and Committee member Keith Winkler VK7YBP.

Northern Tasmania Amateur Radio Club

The annual Christmas Myrtle Park BBQ was held along with the inaugural "Slippery Trout Fishing Competition" which was won by VK7JG. Joe gave the trout a loving Rex Hunt style kiss and released it back to the stream. The new diplexer, which was purchased with the WIA grant, has been installed on Mt Barrow on VK7RAA 147.000 MHz. It is operating well, along with a number of antenna improvements and installation of an intelligent mute squelch circuit in this repeater. The VK7REC repeater has also had its long awaited antenna upgrades thanks to Allan VK7ZAR, Paul VK7KPG, Peter VK7PD and Joe VK7JG. Are you interested in participating in WICEN in the North and North East? A lot of interest has been shown of late and if you'd like to participate, contact Geoff VK7ZOO on the East Coast, who has volunteered to act as interim co-ordinator.

VK7 Regional News Readers on ATV – L: Ian VK7IR and R: John VK7JK

Radio and Electronics Association of Southern Tasmania

We welcome our new F-calls – Estelle VK7FMEL, Sam VK7FBMX, Bernard VK7FBWB, John VK7FAAE, Richard VK7FRHD, Shane VK7FAAF and Tony VK7FGMH. We look forward to hearing you all on the air. We also congratulate Fernando Mendonca and Mark Finlayson who are awaiting their callsigns after successfully passing their Foundation licence assessment in January. Congratulations to Andrew Cavill who passed his Advanced licence assessment in January as well.

March 7 will see Mike VK7DMH give us an illustrated talk on the history of Radio Control along with early equipment and some equipment Mike is rebuilding. This should be a fascinating talk.

Biennial Tassie 2006 Ham Fest at Miena

Dave VK7KDO,
Hamfest Convenor

Miena is in the Central Highlands of Tasmania and played host to the biennial Tassie HamFest. This event is hosted by the Central Highlands Amateur Radio Club of Tasmania and involved all AR clubs throughout Tasmania, ALARA, and many suppliers. The following report is from Dave VK7KDO and Justin VK7TW.

Well, in fine Tasmanian tradition, we had four seasons in one day including snow but, for those that attended, I didn't hear one complaint about the facilities

The well heated (HIHI) and packed Miena Community Hall.

Get in Tune...

PALSTAR INC

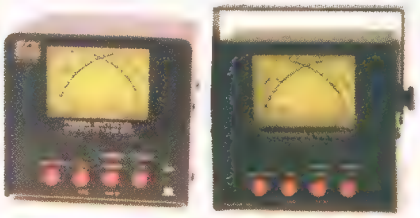
Now available in Australia at TTS

Superbly engineered and robustly built in the USA

AT-AUTO -- A 1500 WATT HF AUTOMATIC ANTENNA TUNER.

A pair of stepping motors provide smooth control of a heavy-duty roller inductor and a 5KV split stator variable capacitor to form the heart of this superb ATU. No clunky relays rattling away in this one!

3 year warranty



ZM-30 ANTENNA ANALYSER

A compact DDS (Direct Digital Synthesis) based antenna analyser. 1 to 30 MHz normalised for 50 ohms. The ZM-30 has some nice features not seen on other units. 3 year warranty

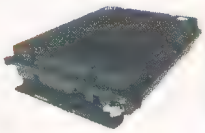
PM2000A & PM2000AM WATT-METERS

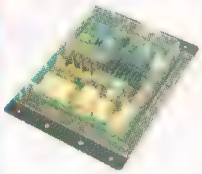
The PM2000A (Bench top) and the PM2000AM (Mobile/Portable) watt meters feature cross-needle meters, peak and peak hold with backlighting. Switchable power ranges are 300 and 3000 watts.

SGC

The Gold Standard SG-230

The SG-230 Smartuner was the first in the HF market with fast, flexible tuning without any user interface. It senses RF when you transmit and automatically finds the best SWR match to your antenna. Works with ANY radio and ANY antenna and requires NO special interface. Use with base station, mobile,





Built to Last SG-237

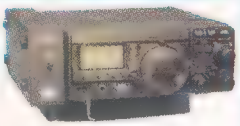
Designed with high density surface mount components on a 4 layer PCB, providing high efficiency, reliability and performance. The PCB is mounted on a sturdy chassis plate, an excellent electrical and RF ground system. Fully waterproof (under 2 ft of water for 24 hours). The case is weather resistant, high grade ABS plastic that is sealed at the factory.

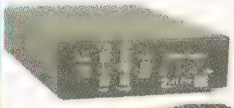
Low Cost Smartuning SG239

Quality performance— low cost. The SG-239 will operate from 1.8 to 30MHz with 1.5 to 200W. Over 130,000 possible tuning combinations and 170 memory bins for fast, accurate tuning. WIL WORK with any antenna and any transceiver. Push buttons for a manual tune option. It weighs only 1 kilo ---use it for base, or portable!

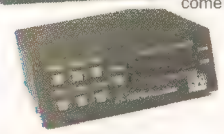
LDG ELECTRONICS

If you own a Yaesu FT-897 and want a broad range automatic antenna tuner, look no further! The **AT-897 Autotuner** mounts on the side of your FT-897 just like the original equipment.





Z-11Pro return of the rugged legend, . All you ever wanted in a small portable tuner designed for battery ops. About the size of a paper back book, it's a go anywhere and come back unscathed tuner.



The AT-100Pro requires just 1 watt , but will handle up to 125 watts. All bands including 6 meters and like all LDG tuners features a two-year warranty. Cables included.

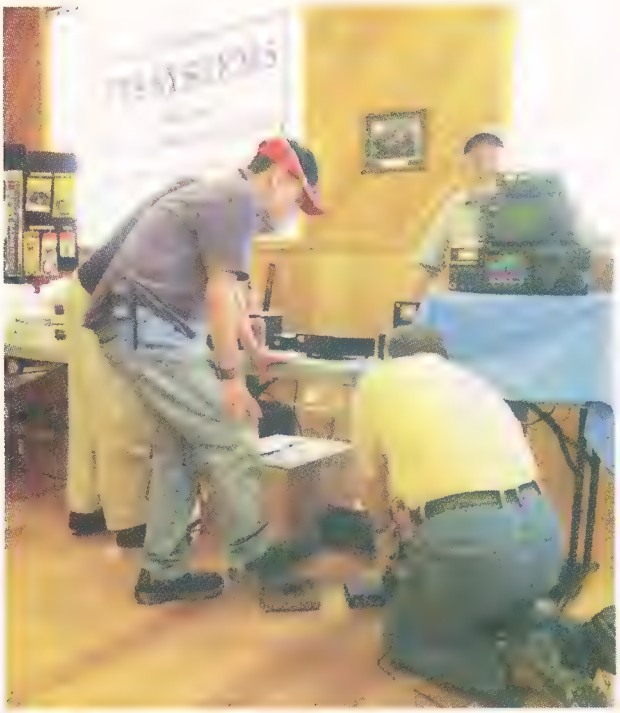
Extended telescopic whips available for Buddipole Antenna. Collapsed 534mm, extended 2.9 metres

TTS Systems Communications Equipment

TTS Systems www.ttssystems.com.au **FREE CATALOGUE**

HF and VHF Transceivers, Autotuners and Kits

Phone 03 5977 4808. Fax 03 5977 4801 info@ttssystems.com.au



Mitch VK7FMCH electing to use his foot in the Morse contest.

and certainly inside the hall was VERY comfortable.

Traders included: TTS Systems, G&C Communications, TET-Emtron, Bushcraft antennas (all the way from VK6!), Ashley Copper Electronics (AJC) and Little Devil antennas. All major rig manufacturers currently on the market were represented.

We certainly over-catered in the food department and the unused surplus food and other items were donated to the hall committee for the pending Central Highlands Christmas party! My thanks go to those who put in a considerable effort in the kitchen and in other areas on the day to make the event run smoothly.

From door takings, we had numbers at 173. It was great to see some of our older amateurs making the effort to attend. One of the major traders stated that it was a better turn up than the Shepparton ham fest, on ya Tassie!

The competitions held through the day included the "guess the resonant frequency" of the helical vertical antenna, the verbal DX-pile, amateur quiz, the lucky door prize and the Morse code contest with a twist! Participants were not allowed to use anything above their waist to activate the key. Those lucky enough to win walked away with a very nice prize.

All traders were satisfied with their sales on the day. If you chose your mark, you could certainly pick up a bargain, with prices in some cases hundreds of dollars below that seen advertised in AR magazine.

Given the difficulty in accessing much radio and associated equipment in Tasmania and having to purchase sight unseen and with considerable freight costs involved, it was certainly an opportunity to view some of the latest in ham radio gear and purchase items for the shack. When next you are considering a purchase, remember those people that supported our ham fest and give them a chance to meet your needs.

Our MC for the Hamfest was Brian VK7RR.

Many an eyeball QSO was achieved by participants and it was great to see the involvement from all clubs in VK7. The day finished off with the committee of The Central Highlands Amateur Radio Club and our trader visitors returning to VK7KDO's holiday home and enjoying a well earned rest, steak dinner and glass of wine.

Thanks to those who supported us I hope you had a great day.

continued next page

www.pca.cc
Email from anywhere
via Winlink 2000
Use PACTOR-3
on HF to send
Mail, Grib Weather,
Weatherfax & Images
Contact marc@pca.cc
Sydney 02 8002 0107

FEATURE TECH
AT3000
Automatic Tuner
1.8~30MHz, 200W
Smart Tuning No need for control cable
Rapid Tuning 2s fist tune, 0.5s memorized
USB Link-Acc
Fully Isolated
Radio-PC Interface
Connecting rig to PC soundcard
USB port to control PTT and frequency
Pocket Frequency Counter
Frequency Range:
10Hz ~ 50MHz
1MHz~2.6GHz
Stability: 1ppm (VCXO)
Battery: Rechargeable Li-Ion
http://featuretech.co.nz
Ph: 64-9-630 5078 Fax: 64-9-630 5038
Email: sales@featuretech.co.nz
Featuretech Limited

News from...

***VK7* continued**

40th Anniversary of the 1967 Bushfires in VK7

Justin Giles-Clark, VK7TW
Email: vk7tw@wia.org.au

Over the 2006 Christmas period, there was a timely reminder of the role amateur radio plays in time of natural and (unfortunately) un-natural disasters like bushfire. Tasmania experienced terrible fires on the East Coast and South East in December and it was many of our F-calls who excelled themselves on the East Coast by using a 2 m simplex channel to keep the lines of communication open when power and phones failed. Merv VK7FLED, Stuart VK7FEAT, Tanya VK7FTAN, Steve VK7FJBL, Terry VK7YBN and Geoff VK7ZOO were all involved and an extra special mention of Leon VK7FLCA whose home was destroyed by the fire.

In the South, WICEN personnel were called upon to assist the Tasmania Fire Service with radio operators at the Cambridge Operations Centre for the fires in the South East. This involved 21 amateurs working over 240 hours over 9 days. Nearly half of that time was covered by F-calls. This was an early start to what is predicted to be a very busy fire season. We need more resources if we are to continue to help in these situations so, contact Roger VK7ARN or Gavin VK7HGO if you are willing to help when the need arises.

Danny VK7HDM and Peter VK7TPE assisting at fire control. (Photo Courtesy of Roger VK7ARN)

The April 1967 edition of AR magazine contained the lead story by Greg Johnson VK7ZKJ of AR's role in the devastating VK7 1967 bushfires. February 7 was the 40th anniversary of this event. These fires covered over 2,600 square km and saw 62 deaths and over 1400 homes destroyed. Amateur radio played a special part due to power outages and jammed telephone exchanges. Only one commercial radio station (7HT) was still on air and a 6 m mobile station was setup outside the radio station to relay information. Dave VK7ZMD (now VK7DM) was posted at the Fire Brigade HQ, Jack VK7JB was at the Civil Defence HQ with Ted VK7EB and WICEN control from the QTH of Lee VK7KC. Also involved were Tom VK7AL, Ted VK7EJ, Crosby VK7CR, Greg VK7ZKJ, Ian Ellings, 22 6 m mobile and 10 HF mobile stations feeding information from the affected areas into HQ. A 6 m relay was setup on Mt Rumney by Barry VK7ZBJ and Ron VK7ZRO. Myles VK7MF, VK7ZZ, and VK7DR were involved in setting up a 40 m net for PMG communication replacement requirements.

Contact with Huonville in the Huon Valley was only established when a 6 and 80 m mobile station was setup by Winston VK7WH with relays via Terry VK7CT and VK2AGH via CW! Mike VK7ZMC operated his base station from Woodbridge. VK7ZZ was handling traffic to the mainland for Department of Social Security, Labour and National Service. Later in proceedings, John VK7ZJG and Greg VK7ZKJ setup a relay station on Mt Wellington using the TVT6 facilities, with Mike VK7ZMC relaying to/from the North on Mt Barrow. By February 14, infrastructure was back in place and WICEN involvement ceased.

Dave VK7DM and Myles VK7MF were interviewed for the ABC Radio National program "Hindsight" which aired over the week of the 40th Anniversary and they were also interviewed on ABC local radio. The Hindsight program is also available on the ABC Radio National website.

(Sourced from reports from Dave VK7YUM, Roger VK7ARN and original article by Greg VK7ZKJ)

BT

Photo from the original article. - Civil Defence HQ Hobart – LtoR: Jack VK7JB, Crosby VK7CR and Ted VK7EJ.

EMPLOYMENT

R & D and Production Engineers are needed for the production of specialty telecommunications equipment for an award-winning export-oriented company.

Suits hands-on quality-conscious people with a deep interest and good knowledge of radio electronics.

Please submit your resumé to:

Operations Manager
WiNRADiO Communications
15 Stamford Road
Oakleigh Vic 3166.

Tel : 03 9568 2568
fax 03 9568 1377
www.winradio.com

Christine Taylor VK5CTY

A Queensland gathering

The Central Highland ARC held its AGM as part of a pleasant get-together weekend. There were five licensed YLs among those present: Dawn VK4HER, Gail VK4FGLS, Joscelyn VK4JJ, Mary VK4PZ and Lyndall VK4ZM. The idea of an auction held under the stars sounded great, but the predations of the possum, fed on biscuits, which later managed to eat a whole cake, when everyone's backs were turned, sounds rather too much!!

JOTA in VK2

Norma VK2YL and OM Frank had better luck this time with their equipment than they had a few years ago, when the antenna was blown down in a storm the night before they were planning to run a GOTA (Guides on the AIR) station.

They ran JOTA from Winston Hill Guides using 40 metres, 80 metres and Echolink through 70 cm. All was very successful, but for Norma and Frank, one of the best parts was that all three of their newly-licensed girls were able to participate for part or all of the weekend.

A lovely family occasion, as well as a Scout and Guide one.

Nominations for the AGM

We are sorry to hear that Bron VK3DYF is giving up her position as Minute Secretary. She will be a hard act to follow. Over the years Bron has been in ALARA, she has held almost every position on the committee and is constantly called upon to tell us whether we are doing things correctly.

Enjoy a well-earned retirement from ALARA, but do still come up on the Nets so we can hear your cheerful voice.

Gwen VK3DYL, who has been the Publicity Officer for ALARA since our incorporation (and who was involved in the rewriting of the Constitution prior to that event), is also vacating her position. To fill this one we must, by law, have someone living in VK3.

Please put your hand up if you can help. Neither of the tasks is particularly onerous but the Minute Secretary does have to be able to participate in the committee meetings on air.

Photo 1: The ladies at the Central Highland ARC AGM (L to R): Dawn VK4HER, Helen, Gail VK4FGLS, Helen, Dot, Joscelyn VK4JJ, Mary VK4PZ, Lyndall VK4ZM

The CLARA Challenge

Some of the girls are already working for this Challenge, so the rest of us had better get our skates on!

The Challenge is open to OMs as well as to YLs. The aim is to contact as many YLs as possible during the year 2007 (this is the year within which CLARA will be 40 years old, or young).

ALL modes may be used: CW, phone, HF or VHF, or any of the digital modes, including RTTY, IRLP and Echolink or PSK31 are all accepted.

Net contacts count in this challenge. Signal reports are not needed, just the date, and mode of contact along with the name and callsign of the YL.

The YLs do not have to be members of CLARA but do have to have a licence.

Some ladies have already made 40+ contacts, but I cannot say how many contacts some of the OMs have made so far.

A certificate will be sent to you on presentation of your log before 30 March 2008. Logs may be sent in on paper or electronically – a special email address will be set up shortly. The cost of the certificate is only $5.00 US.

I am sure this will be a welcome addition to your Brag Wall.

Thelma Souper Contest

This could be an opportunity to pick up some of the ZL YLs for the CLARA Challenge.

The contest is held over the March 31st to April 1st weekend but ONLY from 0800 to 1000 Zulu.

All contacts to be on 80 metres, Phone or CW may be used. Both YLs and OMs earn points for contacting each other. If you have made more than 10 contacts, and are a WARO member, you act as a multiplier on the night worked.

Stations may be worked again after half an hour, so it is possible to have four contacts with a particular station each evening.

There will be a bonus station operating each night; ZL6YL will be operating at random times on both nights.

Details of scoring are in the ALARA Newsletter, or can be obtained from any ALARA member if you are unsure of the details.

Please participate. Have fun and help the ZLs have fun.

ALARAMEET in Tasmania

It is time to start planning to be in Northern Tasmania in September 2008. The venue is Ulverstone (mid-way between Devonport and Burnie), and there are caravan parks (with cabins and on-site vans as well as spaces), motels and hotels, so you can choose your preferred type of accommodation.

An interesting program of entertainment has been arranged, starting with the informal dinner on Friday 12th. The actual MEET occurs on Saturday and Sunday, with an all day tour to Cradle Mountain on the Monday for those staying on.

Usually, caravanners start arriving during the week before and some stay

continued page 38

Beyond our shores

David A. Pilley VK2AYD

With over 60 years as a Radio Amateur, I have never heard the HF bands so bad. Today, whilst writing this, I took a listen on 20 metres. Totally dead – the only noise came from the so called 'pristine' Country Energy power lines clocking a S-3 to 5 noise. I tuned 14.100 MHz – no beacons – however my neighbour's touch light on 14.002 MHz was still radiating (a great band-edge marker). So really, what is happening – is the ionosphere being annihilated by man-made pollution? Yes, I know the sun-spot readings are at a minimum, but they were the same 12 years ago and 23 years ago, etc. So what is really happening?

USA

The end of Morse testing

Morse testing to obtain or upgrade an Amateur Radio licence in the United States ended on Friday February 23rd. This followed a 30-day "take effect period" after the January 24th publication in the Federal Register of the Report and Order on FCC rule-making W T Docket 05-235. And on February 23rd, Morse testing became a part of ham radio history.

According to an earlier bulletin released by the American Radio Relay League, the FCC maintains that this change will eliminate an unnecessary regulatory burden. One that the FCC says may discourage current Amateur Radio operators from advancing their skills and participating more fully in the benefits of Amateur Radio.

The new rules mean that all Technician licensees, whether or not they've passed a Morse code examination, will gain some High Frequency operating privileges identical to those of current Novice, Tech Plus or Technician with Element 1 Morse credit licensees, without having to apply for an upgrade. Novices and Technicians with Element 1 credit already have Morse privileges in segments of the 80, 40, 15 metre bands. They also have Morse, RTTY, data and SSB privileges on a portion of 10 metres.

(ARNewsline)

USA

Dayton Ohio Hamconvention

As most of you know, this is the biggest gathering of radio amateurs in the world. If you are planning to visit this year, then make a note that the dates are 18th – 20th May. It's a must do, at least once-in-a-life-time, event for every true Radio Amateur.

ET

Radio may be the key to finding ET

That's E-T as in an Extra Terrestrial civilization or two.

Now here's the challenge that will put internet on the back-burner. Who will go where no ham has gone before and be the first to receive a signal from another world?

Astronomers from the Harvard-Smithsonian Center for Astrophysics in the US have unveiled a new initiative aimed at detecting extraterrestrial life. The project, due to kick off in early 2008, will use a new radio telescope to search other planets for radio transmissions similar to those that are generated on Earth.

At present, most attempts to find alien life look for radio signals that are deliberately beamed across space, but the new initiative by the Harvard-Smithsonian Center is different in that it will look for the residue of radio transmissions sent from one place on a planet to another. It will search the part of the electromagnetic spectrum that is used on Earth for radar, television and FM radio broadcasts.

David Aguilar, Director of Communications at the Center for

ALARA continued

on afterwards, before setting off on their own expeditions. Others will have been on a tour before that weekend or will plan one to follow.

There are many options. If you are planning a holiday in 2008, try to include Ulverstone for September.

The VK5 lunches continue to grow

The January ALARA Luncheon in Adelaide grew like topsy. There were only four of us to start with but we ended with eight.

As photo 2 shows, we have left to right, Susie VK5FSUE, Meg VK5YG, Christine VK5CTY, Ash VK5FASH, Myrna VK5YW standing behind Ash, Jenny VK5FJAY, Jeanne VK5OQ, with Ann VK5FANN standing at the back on the right hand end.

The discussion went from making sushi to what we'd done over Christmas, to the way we were managing our gardens within the water restrictions. Very little radio was mentioned.

We meet at the Museum on the 2nd Friday of the month at 12.00 approximately. Please join us if you are in Adelaide.

Photo 2: See the VK5 lunches item to identify the lunch participants.

Astrophysics, said: *We may pick up spurious signals from people that were never meant for us to hear and get an inkling that something's going on.*

A new low-frequency radio telescope is currently being built in the Australian outback to detect these weak signals. That area was chosen because it is remote enough to avoid most radio interference. The researchers behind the project believe that they will be able to detect Earth-like radio signals within a distance of 30 light years. There are more than 1,000 stars within this area.

(GB2RS via ARNewsline)

eBAY

Online auction

Back in November, the ARRL conducted their first ever Internet Online Auction. It was really an experiment and fund raising idea that became a real success. 109 items were put up for auction and some 4,400 people registered to bid. It raised $US37,340 for the ARRL's General Fund which will be used for Public Service and Education. For example, a Kenwood TS-2000 received a winning bid of $2500 and over 56 bids were received for a Yaesu FT-897D that eventually went for $1,001. The ARRL have now decided to have this as an annual event. Perhaps we could do something similar here in VK.

UK

Free of charge licensing

Effective December 2006, amateur radio licences in the U.K. became free of charge and only need validating (online) every five years or whenever there is an address change. The new licence no longer specifies the operating modes that can be used on the various bands, so that new Foundation Licensees can quite happily join in digital or slow scan QSOs. They also have access to the amateur satellite services as well as the 10 cm and 3 cm bands that were previously forbidden territories. Logs are now optional, but then few stations operating mobile ever kept one. What's the reason for all this? – Administration costs! We hope our government is listening!

(RSGB RadCom)

World's most difficult award

The Elser-Mathes Cup.

The Elser-Mathes Cup is a beautiful carved dark tropical hardwood trophy. It takes the form of four stylized human figures, two standing, two seated, and is a trophy that should grace any Amateur's mantelpiece. It has been available to be won for the past 80 years. The catch is that to win the trophy, you need to make the first two-way radio contact between radio amateurs on Earth and the planet Mars!

The award was dreamt up in the 1920's when people had enormous faith in technological progress and contacts over 1,000 miles were excitement. Apparently they rejected giving the award to the first two-way amateur radio contact with the moon, because they thought it would be too easy. The ARRL are the custodians of the trophy and just before you get any ideas, the contact must be with a human. QSOs with robots are strictly outlawed in the rules.

(RSGB RadCom)

Silent key

Ronald Francis Cohen VK2TF

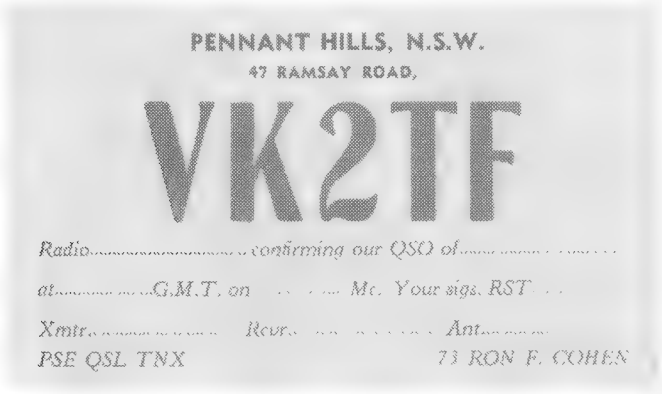
I wish to advise the passing of my father, Ronald Francis Cohen VK2TF, on 30 November 2005.

He became a member of the Wireless Institute of Australia on 20 May 1937 and his membership was current at his passing.

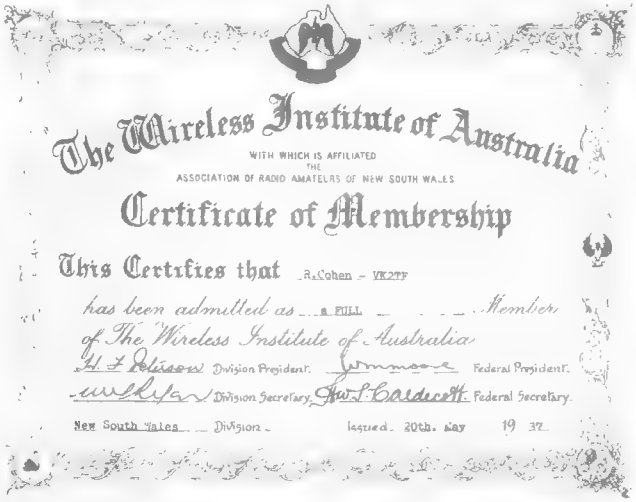
As was common in the pre WW2 days of amateur radio, he built all his early radio equipment, and Morse code was his preferred on-air communication mode. In later years, with the problems of noise emissions becoming an increasing distraction, he dismantled much of his station and mainly listened on the Kenwood radio he purchased in 1993, which he continued to do and enjoy until his passing at age 94.

Vale VK2TF.

Details forwarded by his son, name unknown.


PENNANT HILLS, N.S.W.
47 RAMSAY ROAD,
VK2TF
Radio ..... confirming our QSO of .....
at ..... G.M.T. on ..... Mc. Your sigs. RST ...
Xmtr ..... Rcvr ..... Ant .....
PSE QSL TNX 73 RON F. COHEN

VK2TF QSL card


The Wireless Institute of Australia
WITH WHICH IS AFFILIATED THE ASSOCIATION OF RADIO AMATEURS OF NEW SOUTH WALES
Certificate of Membership
This Certifies that R. Cohen – VK2TF
has been admitted as a FULL Member
of The Wireless Institute of Australia
H. F. Elsasser Division President. Federal President.
Division Secretary. Federal Secretary.
New South Wales Division. Issued 20th. May 19 37

A copy of his WIA membership certificate dated 20 May 1937.

OzGear
www.OzGear.com.au
RadioCommunications & Electronics
2/139 Beenleigh Rd, Acacia Ridge
Brisbane, Q'ld 4110.
Ph 07 3114 2506
sales@ozgear.com.au

We have yet MORE new product lines appearing in 2007 – the OzGear website always has the latest details.

ICOM &
YAESU
Authorised dealer with Icom Australia & Vertex Standard Australia
WE DO NOT "GREY-IMPORT" LIKE SOME OTHER EQUIPMENT SUPPLIERS IN AUSTRALIA. ALL OF OUR PRODUCTS ARE NEW - WITH MANUFACTURER'S AUSTRALIAN WARRANTY.
To be safe, make sure you buy only from an authorised Icom/Yaesu dealer. If in doubt, ask before you pay !

Authorised Dealer
ALTRONICS
Electronics parts and accessories

Ozgear – Tigertronics' only Australasian distributor – announces: The new SL-USB radio-to-PC interfaces are now available... & SL-1+ sound-card model still stocked.

New radio needed ?
Accessories to match ?
Antennas for home or car ?
Cables to link them together ?
That's what we do at OzGear – every working day !

Talk to Doug VK4ADC, an amateur for nearly 40 years, - he understands what you want.

Shipping all over Aus & NZ

Product & pricing info ?
Phone, email or visit us on the web at
www.OzGear.com.au
for the latest product info plus on-line ordering.
Payment ?
Direct Deposit BPAY VISA

QSLs of the WIA National QSL Collection

Ken Matchett VK3TL, Hon Curator
4 Sunrise Hill Road, Montrose Vic 3765
Tel: 03 9728 5350 Email: wiaqslcollection@wia.org.au

The WIA would like to acknowledge the generous contributions of QSLs from the following:

Gwen VK3DYL

Some 3000 QSLs received from several of her DXpeditions to Christmas Island, Cocos, Vanuatu, Tonga, Cook Islands, Lord Howe and Norfolk Islands. QSLs include China BA4, BD7, Taiwan BNO, BX2, BU2, Chatham Island ZL7, Belize V31, Philippines 4F2, Saigon KHO, Netherlands PB1 (new prefix), Italy IL7, Argentina LW8, Mexico 6F1 etc. etc. A very generous contribution to the Collection from Australia's top DX XYL.

Estate Andy Domjan VK3AEW

Some 3000 QSLs contributed courtesy of his son, Andrew, including Taiwan BV0, USA N84, Nigeria 5N6, Mayotte FH4, Guyana 8R1, Canada VY1, CK7, CH3. Belgium OR7 etc.

Robin VK6LK

Thailand HS2000, Turkey YM75DS, Vietnam XV4BP, Netherlands PC50, Marshall Islands V7X, Italy IH9P, France TM2F, St Peter & Paul Island ZVOSB, Denmark 5P1ER (new prefix), South Korea 6KOHG and DTOH, Saudi Arabia 7Z1UG, Brazil ZX7U, Switzerland HE1TELE (not SWL), Turkey TA3J/4 (lighthouse) etc. Is there any DX Robin has not worked?

John VK2ARK

Collection of newly issued QSL cards of Foundation Licence holders. VK3FJNF, VK3FUJI, VK3FELA, VK3FIDX and an interesting VK9FLHI from Norfolk Island.

Hans Kiesinger VK4/HE9RFF (SWL)

Chile XQ5SM, IO1PDT, II1D, HB2CC, Tonga A35XM, Vietnam XVIX , Burkina Faso XT2DR, Juan Fernandez CEOZIS, Franz Josef Land R1FJZ, Spratley Islands MOZ etc.

QSLs from Adelaide Hills ARC courtesy of John VK5EMI

John Smith ex VK3IQ.

A few hundred QSLs of yesteryear such as VP9, VQ8, VR5, VS9 (Kuria Maria), ZE1, ZB1, HH2, CR8 etc.

Estate Don Shand VK3DZM courtesy of John VK3JJB.

QSLs from Oxley Region ARC courtesy of John McLean VK2KCE

Robin VK6LK

YU6A0 Montenegro, KH6SI (Swains Island), OM500KM Slovakia, K5H Kingman Reef, CK3AT Canada, XW30 Laos.

Jeff VK6AJ

BW0S Taiwan, BN0W Taiwan, 5H2MN (Tanzania), XV2NA Vietnam, XV9SW Vietnam, AH05 N. Mariannas.

Mike VK6HD

6DIAA Mexico, LXIARU Bulgaria, S20VT Bangladesh, GX0AAA England, ES9SL Estonia, 6UIWCY Sudan.

Melbourne **VK3DYL** Australia

Contests

Phil Smeaton VK2BAA

Contest Calendar March – May 2007

Mar	3/4	ARRL Intl. DX Contest	(SSB)
	10/11	RSGB Commonwealth Contest	(CW)
	17/18	John Moyle Memorial Field Day	(CW/SSB/FM)
	17/18	BARTG RTTY Contest	(RTTY)
	17/18	Russian DX Contest	(CW/SSB)
	24/25	CQWW WPX Contest	(SSB)
April	7/8	Marconi Contest	(CW/SSB/RTTY)
	7/8	SP DX Contest	(CW/SSB)
	7/8	EA WW RTTY Contest	(RTTY)
	14	QRP Hours	(CW/PSK31/RTTY/SSB)
	14/15	Japan Intl. DX Contest	(CW)
	14/15	Yuri Gagarin Intl. Contest	(CW)
	21	Holyland DX Contest	(CW/SSB)
	21	TARA Skirmish Digital Prefix Contest	(PSK)
	21/22	YU DX Contest	(CW/SSB)
	28	Harry Angel Sprint	(CW/SSB)
	28/29	Helvetia Contest	(CW/SSB)
	28/29	SP DX RTTY Contest	(RTTY)
May	12/13	CQ-M Intl. DX Contest	(CW/SSB)
	13	VK/Trans-Tasman 80 Metres Phone Contest	
	19/20	Baltic Contest	(CW/SSB)
	26/27	CQ WW WPX Contest	(CW)
	27	VK/trans-Tasman 80m CW Contest	

Welcome to this month's Contest Column.

Contesting with 2 radios – SO2R

SO2R, aside from being a valid callsign in Poland, is an acronym for "Single Operator, 2 Radios" and describes an operating practice employed by some contest competitors. A single station operator uses two radios to listen simultaneously to two different radio frequencies. When the two radios are on different radio bands, an operator can be listening to one radio while the other is transmitting. This can result in increased operating efficiency, as the operator can always be looking for new contacts to increase his or her score. SO2R operation can be a challenge to learn and requires practice to achieve proficiency.

The basics of SO2R – why bother?

Using two radios simultaneously is all about boosting your contest score. It is a means of maximising one's productivity during the contest and permits the contestant to be as competitive as possible. It is a difficult skill to master and can even be detrimental to your overall score if not properly mastered, as it is highly distracting and fatiguing. As with most things in life, practice makes perfect, but some operators do it very well indeed and boost their overall score as a result. Even just adding a few QSOs an hour can greatly boost the overall score.

The enhancement to operation is accomplished by increasing efficiency during "dead" time, specifically when you are transmitting on one radio. The technique requires an operator to listen to one radio whilst transmitting on the other radio, so a CQ can be made on one band, whilst listening for a multiplier on another band, for example. If a suitable multiplier is heard on the 'second radio', the CQ call on the first radio is interrupted and a call made to the multiplier station on the second radio. Once the full exchanges have been made, the CQ can recommence on the first radio. Notice, that at any one time, only a single transmission is made.

Technical challenges

Transmitting and receiving simultaneously calls for careful thought as regards inter-station interference. For instance, harmonics from one transmitter could readily overload (or even damage) the

WIA
AGM
to be held in
PARKES
Sat 5 May
Visit
"The Dish"

KVK Antenna Systems

Best value books in VK.

The VK Antenna Handbook for Restricted Spaces

Best value antennas in VK.

The NuBeam

The Vertical-LR-dipole multiband vertical

As seen at Wyong

Check out the latest revision to the web site - more info, more antennas, more value.

For direct purchases
www.grimshaw.net.au
For credit card purchases:
www.kvkantennas.com.au
or ph 07-3216 8060 or
fx 07-3216 8075

front end of the other rig. Thought must be given to antennae separation, band-pass filters, possibly even coaxial stub filters for the bands of interest.

Once this particular aspect has been effectively cured, the next is to think about the interconnections between the two rigs and the rest of the shack. For instance, with two rigs and one pair of headphones, where do the headphones plug in to enable the audio from both rigs to be heard? Taking SSB operation as an example, if you wish to call CQ on the first radio then the microphone needs to be routed to that radio, but still have the ability to be quickly routed to the second radio if a multiplier is heard.

The same story exists for the CW key, PTT, amplifier/s keying, antenna selection, band pass filter selection, coaxial stub selection, and so on. Synchronisation of the switching is then required, so that the output from one radio doesn't get fed directly to the input of the other radio, resulting in a costly repair bill! Some radios feature entirely separate receivers within them, such as the FT1000D and other more recent models. This feature allows dual bands to be effectively monitored simultaneously, as long as the antennae are separately fed to the rig of course.

Getting started

So, how to achieve all this? Without the politically incorrect inference of having been a birth product of Tasmania and using all appropriate attributes (only joking!), there are plenty of products in the marketplace available for people to purchase, such as Array Solutions, DX Doublers, Top Ten Decoders and the like, but a basic system can be assembled without all the bells and whistles and of course the subsequent expenditure.

Firstly, add a second rig to your station. Most of us have a second rig tucked away in the shack or sitting in storage somewhere, which can be pushed into service again. The philosophy for SO2R is to allow any two radios to be used and they do not have to be identical. A large percentage of the very serious SO2R operators use identical radios just to reduce the confusion factor, but having identical radios isn't necessary. Sounds obvious, but some people do tend to upgrade equipment and not have the 'original' rig on the desk any more. Connect one antenna to one rig and another antenna for another band to the second rig, and practise calling CQ on one whilst listening to and tuning around on the other. This is the fundamental skill required for SO2R and is the point where you can make the decision as to whether or not the approach is 'right' for you. Even a rig with dual VFOs can be used to listen to a single band but tune around the same band on the second VFO in-between CQ calls.

Using two radios on the same band with separate antennae is likely to cause damage to the front end on the second radio, due to high levels of RF being present at the antennae from the other radio, so this is not recommended!

The technique is good for searching a second band for multipliers or simply for other stations that you haven't worked in the contest yet. Listening on another band can tell you if that band is more likely to yield a higher QSO rate than the band you're presently on, or even when the band is open or not. A decision can be made to QSY or not whilst calling CQ on the first band, but with no interruptions.

The more complex stations provide for antennae switching to automatically select the appropriate antenna for a given band when the radio band is changed, and to allow for maximum flexibility for the two radios, so that all bands are available to both radios. An automated CW keyer and/or a digital voice keyer (DVK) for SSB operation is often also used. However, as an interim approach, manual switching can be used for CW key lines, receiver audio and microphone audio as the next step to see if the technique sparks an interest and to allow the technique to be attempted with little, if any, expenditure.

A PC could also be pressed into service, with software available to enable a myriad of SO2R functionality and flexibility, such as N1MM logger or K1EA's CT, for example. Linkage between the PC and the remainder of the hardware may be required of course, to allow for dual radio frequency control (although this isn't absolutely essential), CW keying, automated antennae and filter selection and, of course, logging contacts on the appropriate band.

An unfair advantage?

The use of SO2R in HF contests has been controversial in the past. Some feel that the extra expense, complexity, and improved performance that can be achieved from SO2R operation merits the separation of SO2R operations into a distinct competitive entry class from other single operators. While no major contests have yet done this, some will list individual scores in contest results with an SO2R designation where the station reports that SO2R was used. But is it unfair? Well, it could be argued that the station with a multiple Yagi stack has an unfair advantage over the single Yagi station, so a separate category should be provided for such entrants, so as to compare apples with apples. Contest organisers need to draw the line somewhere, so it'll be an interesting debate to observe. From a personal standpoint, I see it as another acquired skill by an operator trying to excel in a given aspect of a hobby. Installing narrow filters in your radio to reduce the receive bandwidth enables improved readability of some signals and assists in getting more stations into the log – I don't suppose anyone would argue that this is an unfair advantage. So if someone is able to assemble the required hardware for SO2R in order to get more contacts into the log, I don't see it as unfair – but everyone will have their own opinion of course…..

For now at least, it's an interesting and proven technique for those trying to get the best out of their contesting station and indeed themselves. It's a difficult skill to master (especially using CW) and only practice will enable excellence. Amateur Radio is one of those hobbies where the learning curve seemingly never ends for the willing.

I have some additional material – diagrams etc – of typical set-ups which I can email to anyone interested in SO2R, so please contact me via vk2baa@wia.org.au if you'd like copies sent to you. The information is freely available on the Internet however and a quick search for "SO2R" on Google will point you in the right direction.

Commonwealth Contest – A Reminder

AR might appear just after the contest, but just in case, here's a reminder that the VK team need your help to win the Commonwealth Team Contest. You might also have a lot of fun too! VK6VZ has been given the dubious task of coordinating the Australian team entry. Our squad consists of:

1. Les VK4BUI
2. David VK2NU

3. John VK4EMM
4. Alan VK8AV
5. Barry VK2BJ
6. Mike VK6HD
7. Russ VK4XA
8. Kevin VK6LW
9. Phil VK2BAA
10. George VK4XY
11. Bernd VK2IA
12. Rob VK6HG
13. Alan VK6BN
14. Steve VK6VZ

In order to make the best possible score, it is important for each member of the Australian squad to work as many "bonus stations" as possible. Each Australian state counts as a separate call area for the contest on each band, and the first three contacts we make with each Australian state, other than our own, on each band each earns us a vital twenty bonus points.

On this basis, if as many Australian amateurs as possible can get on in the Commonwealth Contest and help the team out by working them on as many of the HF bands as possible, that would help us to beat the Poms, Kiwis and Canucks, etc.

For those who would like to enter, there is a brilliant free software program called SDC, which has been written by Paul EI5DI especially for the Commonwealth Contest. This runs under Windows and can be downloaded from: http://www.ei5di.com/sd/sdcsetup.exe

See you in the Commonwealth Contest 2007!

QRP Hours Contest – Date Change

Ian Godsil VK3JS, Contest Manager for the QRP Hours Contest, writes to advise that the QRP Hours Contest now has a revised date of the 14th of April, due to a clash with Easter in the calendar.

Summer VHF-UHF Field Day 2006 Results

The results for the Summer VHF/UHF FD contest should be in this edition of AR. It's really pleasing to see a contest in such a healthy condition, with an increase in submitted logs and an increase in activity in some call areas. It's all good credit to John Martin VK3KWA, who has put so much effort into making the contest the success that it is. Thanks John!

Ross Hull Contest 2006 – 2007 Results

The results for the Ross Hull contest should also be in this edition of AR. The news is not so good for this contest, as log entries were not making the contest manager John Martin VK3KWA work very hard. Peter Freeman VK3KAI, our illustrious AR magazine editor no less, was busy during the contest with a commanding score on 2 m aiding Peter to win Section A, but also winning Section B too, with contacts on all bands up to 10 GHz! Well done Peter! Rex Moncur VK7MO won Section C with an impressive score on 23 cm.

The contest manager is open to comment on the current scoring system and wishes to bolster contest activity. John can be contacted via vhf-contests@wia.org.au and would be delighted to discuss the issue and consider any input offered.

If you have any contest related material for inclusion within the column, topics that you'd like covered, or even some experiences and pictures you'd like to share, then please feel free to get in touch via vk2baa@wia.org.au. See you on the bands.

73 de VK2BAA Phil Smeaton

Results of the 2006 WPX SSB Contest for VK stations:

(Call\Bands\Score)

Multi-Operator Single TX

VK4WR	All	1,735,120
AX6ANC	All	1,330,950

Single Operator

VK4CZ	All	3,585,504
AX7GN	All	523,642
VK3IO	All	334,825
VK3KE	All	75,000
VK3AVV	All	42,420
AX2GR	All	18,060
VK6HZ	All	17,484
VK2BCQ	All	5,928
VK2KPP	21	1,677,312
AX4EJ	All	379,950
VK2ICQ	All	47,841
VK2KDP	All	34,584
VK3BGH	All	9,240
VK2WL	All	3,102
VK4VCC	14	1,323

QRP

VK2BAA	All	88,638
AX8AA	All	21,527
VK3JS	All	3,060
VK2NU	All	1,679

Results of the 2006 IARU Contest for VK stations:

Call	Score
VK2AYD	59126
VK7GN	46295
VK6ANC	45678
VK2GR	32361
VK4DMP	18914
VK4TT	8029
VK1AA/M	5913
VK4VCC	540
VK4WR	207
VK2CZ	168
VK2BAA	Unknown – log missing from the results!

QRP Hours Contest

Saturday, 14thth April, 2007

0930 – 1030 UTC CW/RTTY/PSK31

1030 - 1130 UTC SSB

Sponsored by the CW Operators' QRP Club, the AIM of this contest is to make as many contacts as possible within a one-hour period using your choice of mode. Whilst it is hoped that the event will be strongly supported by QRP Club Members, it is open to all licensed amateurs.

Output Power: Preferably 5 watts, but not more than 10 watts of carrier power. This is to stress the QRP nature of the event.

Modes: **First Hour** - CW (including RTTY and PSK31) 0730 pm Eastern Std. Time

Second Hour - SSB 0830 pm Eastern Std. Time

Frequencies: **CW/PSK31/RTTY** 3.500-3.540 MHz
SSB 3.550-3.630 MHz

Exchange: a three-digit serial number starting at 001 and incrementing by one for each new contact.

Score: one point per contact.

Logs must show the name, address and callsign of the operator and the number of points claimed.

Send Logs by mail to: Ian Godsil VK3JS, 363 Nepean Highway, Chelsea, 3196; or by email to: vk3js@bigpond.com

Please consider using email and sending the log immediately after the event. Otherwise logs should be received by last mail on Friday, 20th April, 2007.

Certificates will be awarded to the highest scorers in each Mode in each State.

Harry Angel Memorial Sprint

1000 Z – 1146 Z Saturday 28th April, 2007

This is an annual Contest to remember VK's oldest licensed operator, Harry Angel. Please note the time length of the Contest - 106 minutes, 106 years being Harry's age when he died in 1998. It is open to all HF operators.

Object is to make as many contacts as possible on 80 metres, using modes CW and SSB. Categories: Single Operator (CW, Phone, Mixed) and SWL. Frequencies: CW: 3500 - 3535 kHz, Phone: 3535 - 3700 kHz. Contacts in DX window not permitted. Exchange RS(T) and serial number starting at 001.

Score two points per CW QSO and one point per Phone QSO.

Stations may be worked once only per mode. Logs must show time UTC, callsign worked (both callsigns for SWLs), mode, RS(T), serial numbers sent and received for each QSO. Send summary sheet showing name and date of Contest, name and callsign of entrant, category entered, address, points claimed and a signed declaration that the rules and spirit of the Contest were observed. Send logs to Harry Angel Sprint, 363 Nepean Highway, Chelsea, 3196, by Friday, 11 May, 2007. Logs may be sent via email to: vk3js@bigpond.com

Ross Hull Memorial VHF-UHF Contest 2006 - 2007: Results

Contest manager: John Martin VK3KWA

The last Ross Hull Contest was not well supported. There were some good openings during the contest period, but these did not translate into large numbers of logs. I hope that activity will be greater next time around, and it may be possible to help it along by simplifying the scoring and log-keeping requirements.

Congratulations to the winners of this year's contest. They are Peter Freeman VK3KAI (who for the first time has won two sections), and Rex Moncur VK7MO. Congratulations also to all other entrants.

Any comments or suggestions? VK3KWA (QTHR) or vhf-contests@wia.org.au

Ross Hull Contest 2006 – 2007

Call	Name	50	144	432	1296	2.4G	3.4G	5.7G	10G	TOTAL
Section A: VHF-UHF (6m - 23cm)										
VK3KAI	Peter Freeman	1	591	175	72	-	-	-	-	839
VK2TG	Robert Demkiw	59	387	285	-	-	-	-	-	731
VK2ARA	Ted Thrift	390	183	35	-	-	-	-	-	608
VK7MO	Rex Moncur	-	402	95	64	-	-	-	-	561
VK6ADI	Barrie Burns	334	153	-	-	-	-	-	-	487
VK3BG	Ed Roache	26	225	80	80	-	-	-	-	411
VK3ECH	Rob George	155	162	50	32	-	-	-	-	399
VK2AH	Brian Farrar	142	201	10	-	-	-	-	-	353
VK1WJ	Waldis Jirgens	21	132	120	-	-	-	-	-	273
Section B: Microwaves (23cm and above)										
VK3KAI	Peter Freeman	-	-	-	72	30	30	10	30	172
Section C: Digital modes, All Bands										
VK7MO	Rex Moncur	-	90	-	23684	-	-	-	-	23774
VK1WJ	Waldis Jirgens	-	207	-	-	-	-	-	-	207

JOHN MOYLE MEMORIAL FIELD DAY March 17 & 18

Ross Hull Contest – List Of Winners 1950 – 2007

1950 - 1951	VK5QR	R. Galle
1951 - 1952	VK5BC	H. Lloyd
1952 - 1953	VK4KK	A. K. Bradford
1953 - 1954	VK6BO	R. J. Everingham
1954 - 1955	VK4NG	R. Greenwood
1955 - 1956	VK3GM	G. McCullough
1956 - 1957	VK3ALZ	I. F. Berwick
1957 - 1958	VK3ALZ	I. F. Berwick
1958 - 1959	VK3ALZ	I. F. Berwick
1959 - 1960	VK4ZAX	D. R. Horgan
1960 - 1961	VK3ARZ	W. Roper
1961 - 1962	VK5ZDR	M. J. McMahon
1962 - 1963	VK4ZAX	D. R. Horgan
1963 - 1964	VK5ZDR	M. J. McMahon
1964 - 1965	VK3ZER	R. W. Wilkinson
1965 - 1966	VK3ZDM	J. R. Beames
1966 - 1967	VK5HP	J. H. Lehmann
1967 - 1968	VK3ZER	R. W. Wilkinson
1968 - 1969	VK5ZKR	C. M. Hutchesson
1969 - 1970	VK3ZER	R. W. Wilkinson
1970 - 1971	VK4ZFB	E. F. Blanch
1971 - 1972	VK5SU	J. W. K. Adams
1972 - 1973	VK5SU	J. W. K. Adams
1973 - 1974	VK5SU	J. W. K. Adams
1974 - 1975	VK5SU	J. W. K. Adams
1975 - 1976	VK5SU	J. W. K. Adams
1976 - 1977	VK4DO	H. L. Hobler
1977 - 1978	VK3OT	S. R. Gregory
1978 - 1979	VK4DO	H. L. Hobler
1979 - 1980	VK3ATN	T. R. Naughton
1980 - 1981	VK6KZ	W. J. Howse
1981 - 1982	VK6KZ	W. J. Howse
1982 - 1983	VK6KZ	W. J. Howse
1983 - 1984	VK6KZ	W. J. Howse
1984 - 1985	VK3ZBJ	G. L. C. Jenkins
1985 - 1986	VK3ZBJ	G. L. C. Jenkins
1986 - 1987	VK3ZBJ	G. L. C. Jenkins
1987 - 1988	VK5NC	T. D. Niven
1988 - 1989	VK5NC	T. D. Niven
1989 - 1990	VK3XRS	R. K. W. Steedman
1990 - 1991	VK3XRS	R. K. W. Steedman
1991 - 1992	VK3XRS	R. K. W. Steedman
1992 - 1993	VK3XRS	R. K. W. Steedman
1993 - 1994	VK3XRS	R. K. W. Steedman
1994 - 1995	VK3XRS	R. K. W. Steedman
1995 - 1996	VK2FZ/4	A. Pollock
1996 - 1997	VK2FZ/4	A. Pollock
1997 - 1998	VK2FZ/4	A. Pollock
1998 - 1999	VK3XPD	A. P. Devlin
1999 - 2000	VK3EK	R. G. Ashlin
2000 - 2001	VK4TZL	G. R. McNeil
2001 - 2002	VK4TZL	G. R. McNeil
2002 - 2003	VK3EK	R. G. Ashlin
2003 - 2004	VK3EK	R. G. Ashlin
2004 - 2005	VK3UH	L. Mostert
2005 - 2006	VK4TZL	G. R. McNeil
2006 – 2007	VK3KAI	P.L. Freeman

Summer VHF-UHF Field Day 2007: Results

Contest manager: John Martin VK3KWA

Support for the Field Day has continued to increase. Once again we have a record number of logs – nearly twice as many as the previous record in January 2006. This Field Day also saw the first entries from Foundation licensees. The propagation conditions were average, with no major openings but still plenty of very good contacts. Comments and photos received with the logs showed that much fun was had.

Logs were well presented and easy to check – thanks to all for this – and it was only necessary to make minor scoring adjustments to a couple of logs.

There still seems to be some uncertainty about the rules re the use of calling frequencies. The answer is to please avoid designated DX calling frequencies wherever possible. A string of S9 contacts made on "point one" is definitely not in the spirit of the rules. For the next contest there will also be a change in the wording of the rule about grid hopping.

Congratulations to the winners of the five sections, and to all who took part. I look forward to seeing another all-time record number of logs for the Spring Field Day in November.

Call	Name	Location	50	144	432	1296	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	TOTAL
Section A: Single Operator, 24 Hours											
VK3KAI	Peter Freeman	QF21/ 22/ 31/ 32	21	486	610	640	660	670	320	670	4077
VK4OE	Doug Friend	QG61, QG63	73	285	485	696	450	-	-	320	2309
VK2SMC	Rod Collman	QF44	80	591	805	608	-	-	-	-	2084
VK4JMC	John McPherson	QG62	174	543	590	176	-	-	-	-	1483
VK3ECH	Rob George	QF23	34	402	340	360	-	-	-	-	1136
VK4AQ	Ross Anderson	QH32	199	297	460	-	-	-	-	-	956
VK5XE	Ian Northeast	PF96	104	318	355	-	-	-	-	-	777
VK4DMC	Dale McCarthy	QH21/22	240	285	160	-	-	-	-	-	685

VK2EAH	Andy Hood	QF57/58/67/68	-	297	340	-	-	-	-	-	637
VK3BJM/2	Barry Miller	QF07	57	345	175	-	-	-	-	-	577
VK2KWM	Wayne Memphis	QF59	22	243	235	-	-	-	-	-	500
VK5AR	Alan Raftery	PF94/95	46	228	225	-	-	-	-	-	499
VK3UBM	Michael Borthwick	QF21/ 22	-	219	-	-	210	-	-	-	429
VK5FAAF	Robert Allen	PF96	-	218	112	-	-	-	-	-	330
VK4TGL	Gerard Lawler	QG62	76	111	105	-	-	-	-	-	292

Section B: Single Operator, 8 Hours

VK3WRE	Ralph Edgar	QF31	-	426	490	728	690	680	430	580	4024
VK3KAI	Peter Freeman	QF21/ 22/ 31/ 32	-	249	340	544	660	670	320	670	3453
VK3BG	Ed Roache	QF23	35	411	350	448	-	-	-	-	1244
VK3ECH	Rob George	QF23	34	402	340	360	-	-	-	-	1136
VK3YFL	Bryon Dunkley-Smith	QF12, 22	58	399	425	-	-	-	-	-	882
VK3DQW	Ken Asplin	QF21	-	330	450	-	-	-	-	-	780
VK5OQ	Keith Gooley	PF95	64	186	290	200	-	-	-	-	740
VK5FAAH	Andrew Hall	PF95/96	-	198	315	-	-	-	-	-	513
VK5AR	Alan Raftery	PF94/95	46	228	225	-	-	-	-	-	499
VK4DMC	Dale McCarthy	QH21/ 22	172	159	160	-	-	-	-	-	491
VK2TPK	Peter Kohlmayer	QF56	46	162	260	-	-	-	-	-	468
VK3UBM	Michael Borthwick	QF21/ 22	-	219	-	-	210	-	-	-	429
VK2FMAM	Paul Read	QF56	-	162	260	-	-	-	-	-	422
VK2EAH	Andy Hood	QF58/67/68	-	180	220	-	-	-	-	-	400
VK5NI	John Ross	PF95	22	66	110	192	-	-	-	-	390
VK4EV	Ron Everingham	QG62	51	147	120	-	-	-	-	-	318
VK4DFG	Harry Debnam	QG62	-	123	-	-	-	-	-	-	123
VK5JQ	Jeanne Sayers	PF95	-	99	-	-	-	-	-	-	99

Section C: Multi Operator, 24 Hours

VK3UHF	GUMEG (1)	QF21	93	810	1060	1112	820	550	320	910	5675
VK1CEA	(2)	QF44	136	810	870	584	210	210	-	-	2820
VK4WAT	Tablelands REC (3)	QH22	336	483	635	216	-	-	-	290	1960
VK1BL	(4)	QF44	203	651	860	-	-	-	-	-	1714
VK2DO/1	(5)	QF44	128	468	600	480	-	-	-	-	1676
VK5ARC	SCARC (6)	PF94	147	471	645	176	-	-	-	-	1439

Section D: Multi Operator, 8 Hours

VK5SR	(7)	QF02	90	444	555	462	440	310	210	210	2721
VK3IDL	(8)	QF12	56	312	490	472	320	-	-	-	1650
VK5VST	(9)	QF02	-	246	330	176	210	-	-	-	962
VK3WT	(10)	QF22	32	357	330	-	-	-	-	-	719
VK4CZ	(11)	QG62	31	195	130	-	-	-	-	-	356

Section E: Home Station, 24 Hours

VK3BDL	Michael Goode	QF22	68	579	745	856	-	-	-	-	2248
VK3AAK	Michael Coleman	QF21	76	681	700	544	-	-	-	-	2001
VK4BEG	Russell Norton	QH22	256	387	435	216	-	-	-	-	1294
VK2DVZ	Ross Barlin	QF68	-	411	565	288	-	-	-	-	1264
VK2DAG	Matt Hetherington	QF56	200	483	520	-	-	-	-	-	1203
VK3YLV	David Timms	QF13	48	297	430	288	-	-	-	-	1063
VK4ZDP	David Purkis	QH32	256	387	390	-	-	-	-	-	1033
VK2KOL	Colin Hadland	QF56	-	378	475	-	-	-	-	-	853
VK2TG	Robert Demkiw	QF55	61	315	315	-	-	-	-	-	691
VK3ACA	John Adcock	QF22	-	408	185	-	-	-	-	-	593
VK5FIVE	Rick Cybul	PF94	-	285	285	-	-	-	-	-	570
VK1WJ	Waldis Jirgens	QF44	37	192	260	-	-	-	-	-	489
VK2EI	Neil Sandford	QF68	-	339	105	-	-	-	-	-	444
VK5ALX	Alex Glinski	PF86	23	147	165	-	-	-	-	-	333
VK5FD	Allen Dunn	PF95	45	138	105	-	-	-	-	-	288
VK2KGX	Eric Le Cheminant	QF46	-	144	96	-	-	-	-	-	240

What would you have said?

Jinkin (Jay) Frame

It's surprising how quickly the monthly Radio Club meeting comes round but it is an excellent means of keeping up to date with what is happening locally. Quite a discussion was taking place over planning permission for antennas. Should you 'just put it up' and hope for the best or should you 'risk' applying for permission and having it rejected.

In the middle of this Alan approached - Jay I'm glad you're here for I need some advice – I have some great news! An uncle of mine has left me $2000.00 to spend on my hobby and I really cannot make up my mind on the best way of spending it - we all can do with problems like that I thought!

Well Alan – what are your priorities? What aspect of Amateur Radio really interests you the most? No hesitation from Alan on this – DXing – increasing my country total and of course getting the contacts confirmed!

That simplifies the choice somewhat for the old maxim always applies to dxing 'you must be able to hear them before you can work them', obvious really - but true. So possibly the best investment is in improving the antenna – I know that the long wire you have really does work well - but there really is no substitute for a beam for you benefit two ways – you have the gain on receive and transmitting.

Remember if you do go down that route then do not be mean by not spending dollars on good coax. No point in getting gain from an antenna and loosing it in the feeder – every fraction of a dB counts if you're really serious about DXing. Cheap coax can be VERY lossy. Also spend good money on good quality connectors and take the trouble to seal them properly – a few dollars invested here will keep your expensive coax good for years.

Whether $2000.00 is enough for a beam, rotator and good quality cabling, I'm not sure, but you have a look at the adverts and maybe be able to pick up a second hand antenna and rotator reasonably priced. But as I have said get good quality feeder and look after it.

You may as well and join the group over there still discussing the merits of planning permission – will be interested to know what you decide to do.

What would you have said?

ar

Summer VHF-UHF Field Day 2007: Results continued

(1) Geelong UHF-Microwave Experimenters Group: David Learmonth VK3QM, Chas Gnaccarini VK3PY, Charlie Kahwagi VK3NX.

(2) Andy Sayers VK2AES, Russell Manning VK1JRM, Dale Hughes VK1DSH, Sean Barwick SWL, Simon Pennington VK1SJP.

(3) Tablelands Radio and Electronics Club: John Roberts VK4TL, Dave West VK4ADW, Ulf Larsen VK4TUL, Trevor Gregory VK4ZFC, Jeff Cochrane VK4BOF.

(4) Ted Garnett VK1BL, Greg Parkhurst VK1AI.

(5) Chris Davis VK2DO, Andrew Davis VK1DA.

(6) South Coast ARC: Barry Bates VK5KBJ, Peter Paterson VK5FPGP.

(7) Colin Hutchesson VK5DK, Trevor Niven VK5NC, John Drew VK5DJ, Colin Huon VK5HCF, Tim Hann VK5AV, Tom Aubrey VK5EE, Bill Jackson VK5FWEJ, Kevin Jackson VK5NKJ, Chris Skeer VK5MC, Andrew McKinnis VK5KET, Ian Bishop VK3FNBL.

(8) Ian Lloyd VK3IDL, Ian McDonald VK3AXH.

(9) Simon Vickery VK5VST, Jim Bywaters VK5OM.

(10) Max Chadwick VK3WT, Jack Bramham VK3WWW.

(11) Adam Maurer VK4CP, Scott Watson VK4CZ, Graeme Hope VK4FI, Alan Meek VK4WR.

ar

Over to you

Radio repairs

Finding a competent and reliable organisation for servicing amateur radio equipment is not easy. My own experience during recent years had taken me to the point of despair all too often. In years past, I was able to service my own equipment. Modern 'black-boxes', however, are beyond me.

Anyone else in the same boat will be well advised to have a look at web site:

http://www.rfrepairs.com.au/

I have had one item repaired by this organisation, and am well satisfied with the repair and (almost as important) the good customer service.

RayVK2COX

Those IC-706 microphone plugs

Some owners of the IC-706 transceiver may have had the misfortune of breaking off the holding clip of the RJ45 microphone plugs. Then, the plugs will not stay in the socket of the rig.

After breaking the plug on my Headset Boom Microphone (refer AR March, 2006), I had to hold it in with BlueTack. I decided something had to be done. I even bought an expensive crimp tool for RJ plugs.

The answer to the problem is the 'Clip-On' covers, or 'Boots' as they are called, for the plug. The Boots are available from most electronic component stores, in packets of ten. So, buy a packet and share them with your other IC-706 owner friends - they will be forever grateful.

The Boots clip over the plug and seem fairly secure, although I did put a dob of Hot Melt Glue on both of mine.

I believe the Icom IC-7000 also has an unprotected microphone plug!

It is interesting to note that another brand of transceiver has a moulded type cover on their microphone plug!

I hope to hear all IC-706 owners on the bands.

Steve Mahony VK5AIM

DX – News & Views

John Bazley VK4OQ,
P.O. Box 7665, Toowoomba Mail Centre,
QLD 4352.
Email: john.bazley@bigpond.com

Well – how successful were you with all the DX activity during the latter part of December and the beginning of the New Year? We certainly started the New Year on a 'high' with plenty of rare DX activity from some of the DXpeditions including 1A4A -VU7RG - VU7MY - XT2C - S21XA and T32MO.

There certainly has been a lot of comment on the DX cluster regarding these various operations. I am sure that no matter what each DXpedition does there will always be someone who does not agree with the bands/modes that they are using at a specific time, the QSO rate, or the areas that they are working. I personally think that the taking of beams on DXpeditions has not helped the situation. A typical example is the recent XT2C DXpedition (I am not being critical, for they gave VK a good break) when beaming to JA the edge of their beams were on VK. To fully appreciate this, you can visit their web page where they have a very good great circle map centred on their operation.

A further point about beams is that DXpeditions operating from the antipodes (that is from VK) occasionally have some very good, but short openings, on the Long Path which are more easily 'picked up' when the DXpeditions are not using beams. This point has been forcibly made by "The Microlite Penguins DXpedition Team" - when on their DXpeditions they only operate using vertical antennas and no linears. Likewise, the very successful operations by G3SXW and G3TXF have relied on verticals and they most certainly have had no trouble generating pile-ups!

Another point that affects us, is that the aim of a DXpedition is to make as many QSOs as possible. That means concentrating on areas of high amateur populations – USA, Europe and Japan. It must also be remembered that a lot of sponsorship that enables these trips to take place in the first place comes from those areas. BUT having said that, most DXpeditions are aware of the difficulty that we have in VK working certain areas of the world, and do make determined efforts to contact us.

Now to DX news!

VP8 Falkland Islands

Readers may recollect that I mentioned in this column in May last year that Richard VP8DIZ is quite happy to make skeds, for he appreciates that the path from the Falkland Islands to VK is a difficult one. He is active on all bands and prefers SSB and Data modes.

After many months of keeping weekly skeds, he and I had a QSO on SSB (JUST!) but the bonus was using OLIVIA. This mode was suggested by Richard as we had not been successful, in spite of many attempts, using RTTY and PSK. On our first sked using OLIVIA, we made contact with 100% copy and chatted for 20 minutes during which the signals were barely audible. This was my first introduction to OLIVIA and I was VERY impressed how robust the system is for VERY weak signals. A bonus is that Richard DOES keep skeds and he DOES QSL! His email address is richard.paul@interserve.com

Since writing the above, I have again heard from Richard – and I quote:

As you may appreciate, I get a lot of sked requests and I will do my best to accommodate them all, but how does this sound for an extra.... I believe now that the best time for contact with VK-land is on Sunday at between 0900 and 1100 Z (which is around 1900 and 2100 your time, I guess). I would like to suggest a VP8 – VK SSB party for readers of the WIA magazine. A date at the end of March – say the 28th would be good for me as my wife is coming over to visit me here in the Falklands for a holiday late February. We are both very excited about it. This will be the furthest she has ever travelled, least of all on her own.

So, readers – the ball is in your court! If you want a sked or to join in his "activity period" drop Richard an email for details!

3B6 Agalega

Members of Poland's IARU society, Polski Zwiazek Krotkofalowcow (PZK) and the SP DX Club have a planned DXpedition to Agalega (3B6) in March. The team, led by SP9MRO, Witek, and SP9PT, Wojtek, both of whom have done multiple operations around the world, have received their licences and landing permits after waiting a year. Other members of the team will include SP9BQJ, SP3IQ, SP5BFX and SP9-31029. The team is planning a big effort using several stations for a 12 to 14 day period. They will be operating on all bands, 10 through to 160 meters on CW, SSB, RTTY and PSK31. They may also operate from Seychelles (S7), Mauritius (3B8) and Maritime Mobile (/MM) from the Indian Ocean.

9M4SDX Spratly Islands

9M4SDX is the Spratly Islands callsign for a large group. This one is set for March 10-19 with four stations, all bands and modes. The operators scheduled to go are JA1OCZ, JE1CKA, JF1PJK, JK1FNL, JR1AIB, JJ2VLY, JQ2GYU, JR7TEQ, 9M2CF, 9M2KT, 9M2TO, 9M2/JH3GCN and 9M8YY.

They will be on Layang Layang, AS-051. QSL via 9M2TO, direct or via the bureau:
http://island.geocities.jp/layang9m4sdx/

FR/Glorioso

F5OGL says that the Clipperton DX Group's principal project for 2007 is still Glorioso, FR/G, "but we have some troubles with the new status of these islands." Tromelin, Europa, Juan de Nova and Glorioso are all now administered by the TAAF, Terres Australes et Antarctiques Francaises agency in Paris, with new operating permission procedures and forms to deal with. The CDXG is also working on a big expedition to Chad, TT, that will concentrate on 160, 80 and 40M.

6W Senegal & J5 Guinea-Bissau

A three-op German group is going to Senegal, 6W, and Guinea-Bissau, J5, in March. DL7CM says their flights and hotels are booked and the licences are OK. A Jeep and 2 kW generators have been ordered. This time they will be

using amplifiers with tubes since they've previously had trouble with solid state amps. Look for 6W/DM2AYO, 6W/DL6CT and 6W/DL7CM March 3-23. They'll be operating from the hotel in Cap Skirring, Senegal, 160-6 m CW, SSB, RTTY and PSK. The rig will be an IC-706. DL7CM, Hans, notes local sunrise will be 0655 Z and sunset will be 1847 Z. Senegal is in the GMT time zone. QSL via their home calls.

The callsign for Guinea-Bissau will be J5UAR. The dates for this one are still a little flexible but it will be some time between March 4 and 22. This is apparently the more portable part of the two-country operation, with the antennas more limited, just a ground-plane, and running the IC-706 on generator power. They will be camped north of Varela village.

E51PJT South Cook Islands

Bob G3PJT – will be using a K2 and vertical antennas from the Cook Islands during BERU and then will be operating from New Zealand. QSL via the bureau or direct to his home call.

3DA0 Swaziland

In celebration of the 75th anniversary of the Irish Radio Transmitters Society (IRTS), Ireland's IARU society, members of IRTS will be putting on a DXpedition to Swaziland starting March 16th through to March 25th. Team members include Peter EI7CC, Aidan EI8CE, Paddy EI8BFB, David EI4DJ, Rory EI4DJB, Brendan EI3GV, Pete GI4VIV, and Paul EI2CA. They do not, at the moment, know their callsigns. The team has a Web page at http://www.irts.ie/afri75

Happy DXing.

Special thanks to the authors of The Daily DX (W3UR) and 425 Dx News (I1JQJ) for information appearing in this month's *DX News & Views*.

ar

Spotlight on SWLing

Robin Harwood VK7RH

Expanding horizons

I am glad that things are back to normal now, after a very stressful period during December and January. I am getting back to normal with the DXtuners website. They have available 50 remote receiving locations and it has certainly expanded my monitoring horizons, compared to my very limited set-up here. This is also helped by the recent increase in my download limits on Broadband.

There is still quite a lot to hear, despite the marked reduction of broadcasting activity on shortwave. There is so much activity, especially on the 80 and 160 metre bands, when there is no propagation locally. The 80 metre band above 3.6 MHz is extremely active between 0300 and 0600 Z with several eastern European nets. Western Europeans start around 0500, as well as the Americans now operating much lower down on SSB.

160 metres is mainly CW and there are regular transAtlantic QSO's prior to the local sunrise. Signals quickly drop off with the rise of the Sun and you can follow propagation. Naturally, one encounters plenty of QRN and unfortunately many receivers do not have narrow filters for ideal CW copy. I have yet to hear any amateur activities on the various 60 metre allocated channels.

I noted that HCJB Radio has been renamed HCJB Global, indicating that they have broadened their base to include other ministry activities. They have been developing co-operative local media platforms throughout the World with the decline of shortwave broadcasting, particularly from Ecuador. The former Pifo site is to be dismantled and turned into the new Quito International airport. HCJB Australia has been increasing their HF output and hopes to have a third sender operational later this year. Senders are based in Kununurra (WA), while the studios are in Kilsyth (Vic).

It has been confirmed that there will be further reductions in English programming from the VOA in Washington DC. "News Now" is to be dropped. Naturally, programming is going to be dramatically increased in Arabic, Farsi (Persian) and the two Afghani languages of Pashtoo and Dari. Programs to the Somali Republic were also increased, following the removal of an extreme Islamic regime that was alleged to be closely aligned with Al Qaeda.

It is also worth noting that it has become increasingly difficult to get reliable accurate utility HF information from America, because of security concerns post 9-11. This has led to European monitors forming clandestine monitoring groups, often devoted to American signals. I personally do not want to become involved in this unofficial slanging match and therefore rarely post my utility loggings, despite difficulty in identifying who or what they are. I still concentrate of the many Asian and Pacific utilities, many of whom are unlicensed and illegal themselves, and quite often appear in our exclusive amateur allocations.

Don't forget that on the 25th of this month, the A-07 broadcasting period commences.

This is in line with the introduction of Daylight Saving in the Northern Hemisphere.

That date also sees Australia and NZ revert to standard time.

Well, that is all for now. You can email me at vk7rh@wia.org.au

73 de VK7RH

ar

Harry Angel Memorial Sprint

Saturday 28th April, 2007

Join WIA online

http://www.wia.org.au/join.php

VHF/UHF – an expanding world

David Smith VK3HZ – vk3hz@wia.org.au

Weak Signal

David Smith - VK3HZ

As could be expected, the exceptional Sporadic E conditions over Christmas have now largely ended. However, we have had a couple of openings to finish things off.

Brian VK5BC reports: *On 15 Jan at 6.50 pm SA time, I was fortunate to work three stations in Perth and Bob VK6BE in Albany on 2 m Sporadic E from Corny Point PF85mc. I worked Phil VK6ZKO 5/9, Cec VK6AO 5/8 and Peter VK6RZ 5/3 all in Perth - a distance of approx. 2000 km. About 1/2 hour later, I worked Bob VK6BE in Albany. I first heard the Perth 2 m beacon VK6RPH at S9 off the back of my Yagis and made a quick call on 144.1 and worked Phil prior to turning the beams in the Perth direction. The Perth stations were workable over about a 5-minute period and although I heard other weak signals in the following 1/2 hour, none lasted long enough for a contact. A couple of other Perth stations also copied my signal - namely VK6RO and VK6AKT. I also heard the Bunbury 2 m beacon VK6RBU up to S9 and a little later the Mt Barker 2 m beacon VK6RST S5.*

Garry VK5ZK at Goolwa also worked VK6ZKO and VK6AO.

This opening was the highlight for me of what has been an excellent 2 m Sporadic E season. I have recorded 2 m E openings on 9 separate days – the first on 7th Dec and the last one on 20th Jan and have worked over 50 stations during these openings. I have worked several VK4s from both my home QTH (Gawler PF95jj) and Corny Pt (PF85mc). Contacts have been made with John VK4FNQ in Charters Towers on 5 separate occasions.

On 17 January at 0215Z, Rob VK1ZQR reported on the VK/ZL Logger that he was hearing the VK8RAS 2 m beacon at 5/1. Jeff VK8GF saw this message at work, and managed to work Rob using 100 W to a 5/8 vertical antenna. The opening – probably Sporadic E – lasted for 20 minutes.

On 19 January, Brian VK5BC again worked John VK4FNQ at Charters Towers on 2 m. John also worked Larry VK5LY in Renmark. Brian also heard Trevor VK4AFL in Brisbane.

On 25 January at 0930Z, Garry VK5ZK worked Rob VK4TWR at 5/5. Peter VK5ZLX also worked Rob. The openings were very brief – 20 second bursts – with Rob continuing to be heard sporadically for about 15 mins.

Moving on to Tropo enhancement, there have been many VK5 to VK3 to VK7 openings resulting from high-pressure cells moving across the region. Stations on the north coast of Tasmania (mainly Norm VK7AC, Paul VK7BBW and Karl VK7HDX) seem to be having a particularly good run working many times across Bass Strait well into VK3 and as far as Adelaide in VK5 on 2 m, 70 cm and 23 cm. On 17 January, Norm reports working ZL3MH, ZL3FV, ZL3AAU and ZL4DK on 2 m.

Rex, VK7MO has been exploring coastal ducting up the east coast from Tasmania with SSB contacts on 8 January on 2 m to Colin VK2KOL, Steve VK2ZT, Dave VK2AWD and Ross VK2DVZ; on 9 January to VK2DVZ, VK2ZT, and Neil VK2EI on 2 m and VK2ZT on 70 cm. The duct opened again on 15 January with SSB contacts to VK2EI on 2 m, VK2DVZ on 2 m, 70 cm and 23 cm - the 23 cm contact being a new VK7 record using CW. On 16 January, Rex reports a late season Sporadic E opening with SSB contacts to ZL3TY 5/9+ and ZL3FV and a tropo-ducting opening to ZL3TY using JT65 on both 2 m and 70 cm on 23 January. There was a further coastal duct opening on 3 February to VK2DVZ on 2 m and Matt VK2DAG, on 2m and 70 cm. Rex uses the Newcastle channel 5a TV on 138.276 MHz as an indicator of the coastal duct.

On 4 February Rex completed a dual propagation mode tropo-ducting to meteor scatter 2327 km contact using FSK441 with Chris ZL2DX, 50 km East of Wellington. Chris is shielded from tropo-ducting by 1500 to 2000 metre high mountains on the north of the South Island and this is his first ever VK contact. Because of this shielding, it is necessary to use meteor scatter to cross the mountains and for the tropo-ducting extension of the path to be at the Tasmanian end. The duct was confirmed with 5/9 SSB signals to VK2ZT after the ZL contact. Rex is coming to the conclusion that dual propagation mode tropo-ducting to meteor scatter might be present most times there is a big yellow ducting patch indicated by the Hepburn charts at one end of a long 2000 km plus path, with three examples so far this summer.

And in the "Close, But No Cigar" category, there have been a number of reports of beacons heard at good strength, but no stations around to contact.

John VK6JJ in Perth advises that, on the 2 February at about 0200Z, he heard the VK5VF 2 m beacon up to S9. He then called both on SSB & CW on 144.1 but unfortunately no contact was made.

On the morning of 3 February, ZL1IU reports hearing the VK3RGI (Gippsland) 2 m beacon up to S5. No contacts resulted.

For several days in early February, the VK6RST (Albany) beacons on 2 m and 70 cm were heard for extended periods and at good strength in VK5 and VK3. Once again, no stations could be raised.

Trevor VK5NC dropped me a note concerning the claim that the VK6 to VK7 2 m contact reported in the last column was the first ever between those two states. In February 1988, VK6AOM in Esperance had a 2-way SSB contact with VK7DC in Burnie, which is believed to be the first between VK6 and VK7.

Summer VHF/UHF Field Day

For once, the weather, at least in VK3, was kind to participants in the field – neither blowing a gale, freezing, nor pouring with rain.

Chas VK3PY, David VK3QM and Charlie VK3NX were at Barabool Hills near Geelong operating as VK3UHF. Chas reports: "Highlights included working 18 grids on 2 m, 14 grids on 70 cm and 10 on 23 cm. Oh, and I mustn't forget the overseas contact to VK7 on 2 m! We also knocked over quite a few grids on the microwave bands, 2.4 GHz to 10 GHz, although we couldn't raise anybody on 24 GHz. Two 23 cm contacts stand out in my mind: VK3VHF in Gippsland, (about

150 km away), who was running 1W to a 60 cm dish and VK1CEA on Mt. Coree, who had 10W to a 1.2 m dish, but no pre-amp. At the conclusion of the contest, we had a lengthy rag-chew with the latter - no aircraft enhancement required. Our 23 cm system comprised 50 W to a 42-el Yagi with Minikits LNA".

Colin VK5DK reports that the South East Radio Group operated in the 8-hour section on all bands from 50 MHz to 10 GHz. Greatest distance worked was to Ralph VK3WRE - just under 530 km - on 144 MHz, 432 MHz, 1296 MHz, 2403 MHz and 3400 MHz. Details are on the South East Radio Group web site: serg.mountgambier.org then go to "Recent Happenings", "Current", then click on 2007 Field Day for all the photos and contact details.

Andy VK2AES reports: "We had a hoot of a time operating VK1CEA from Mt Coree over the weekend. The amount of activity seems to be increasing with every contest. Thanks to all of the home stations who gave us regular contacts. We barely had time to sit back and relax the whole weekend! We made about 240 contacts all up. Some impressive distances too - 2014 km on 6 m, 598 km on 2 m and 70 cm, 518 km on 23 cm and 33 km on 2.4 and 3.4 GHz (with 300 micro-watts!). The duct which allowed such good propagation up the NSW coast was clearly visible from our location".

Things didn't go quite so smoothly for Doug VK4OE: "I'm sure I'll do better another time, due to a number of 'challenges' of field operation that were experienced. I could describe:

- forgetting to pack my main 2.4 GHz antenna for my Saturday evening operations (I knew I should load it, but it was missed at the last minute!)
- light rain all Sunday morning at my location on Springbrook Mountain, high on the NSW-Qld border, inland from the Gold Coast. With the wisdom of hindsight, a different location would have been better - it wasn't raining anywhere else.
- having completed and tested a new 10 GHz transverter in the week before the contest, my previously-reliable other 10 GHz unit chose this time to develop a fault that made 3 cm QSOs very difficult.
- rather flat propagation in this part of the country during the times I was operating, and not as many stations operating as in previous events.
- and finally, my 'rover' comrade Alan VK4UAT encountered an unexpected blocked-off road on the Sunday morning at one point and, after having to drive an extra 50 km or so, did not get set up in his final grid square in time to make all the contacts we could before 0100Z, which was to include 12 cm and 3 cm.
- And, would you believe, that despite trying and despite the Gold Coast being a high population area, I failed to work any other station in QG61 square on 2 metres! [Also, unusually, not one VK2, either....]"

Such is the 'fun' of field operation in contests! Nevertheless, I was grateful for the support that I received from many VK4s and I am looking forward to next year's event already!

Aircraft-Enhanced Propagation

Ron VK3AFW writes about his efforts in working a distant, and rare, grid square via aircraft-enhanced propagation.

This is for those of you interested in AE working on different paths but have limited experience in doing this. Recently I worked Barry VK3BJM/P near Broken Hill on 2 m, a distance a bit over 700 km. The normal tropospheric propagation wasn't helpful, as although Barry could frequently hear my CW, I could not copy his SSB although snatches of audio were heard in the noise from time to time. Following a contact between David VK3HZ and Barry on 70 cm that was clearly via AE, Barry and I decided to get serious about the QSO. Examination of the airline timetables showed that a Sydney to Adelaide flight would have been the likely enhancer for the 70 cm QSO, so the next available similar flight was found.

My rough prediction was signals commencing 30 minutes after the scheduled departure, based on the 70 cm QSO. Subsequent better calculations give roughly 40 minutes, based on flight times and path geometry.

After a phone conversation, Barry set up his keyer, calling CQ with breaks commencing 25 minutes after published departure. About 41 minutes after scheduled departure of the Adelaide flight, Barry's CW signal suddenly rose out of the noise to 529. I waited for the sequence to finish and then quickly called Barry on SSB giving his report. He responded with my report and acknowledgement of his. I confirmed receiving his report but by then signals were fading. A couple more quick exchanges and signals were gone.

The total window was about 20 seconds, (as it was for the 70 cm QSO) during which the aircraft travelled less than 5 km!

Lessons for all:

It is possible to predict times of AE openings from the published timetables and basic geometry. Allow some tolerance for variable flight conditions and gate delays.

Available contact times may be short. Fast SSB exchanges are preferable although good CW operation can allow completion. (I missed a previous QSO with Barry on another outing through my clumsy CW procedure.)

Having one station run a keyer or recorded calling message with listening breaks every 5 or so seconds helps considerably.

Barry was using 100 W to a 10 ele Yagi, so it isn't necessary to have a semitrailer full of gear to mount an expedition.

Beacons

Alan VK3XPD advises that a new beacon - VK3RXX – is now up and running on 2403.530 MHz. The beacon is located in Melbourne – QF22le. Power is 16 watts into an Alford Slot up about 13 metres. Ident is CW. It is currently about 1 kHz low and slowly drifting down. There is phase noise on the signal - it sounds a bit raspy/scratchy - but this will be improved shortly. The beacon has already been heard in Ballarat. Alan is looking for more signal reports - alandevlin@bigpond.com.

Annual Gridsquare Table 2006 Results

Final results are in and the table has been closed off for the AGT 2006 competition.

The AGT competition was created by Adam VK4CP to stimulate more activity on our VHF/UHF bands. The rules are similar to that of the Grid square League Table, where entrants record the number of grid squares worked on the VHF, UHF and microwave bands. The main difference is that the competition runs from 0000Z each year when the slate is wiped clean, making everybody start on a level playing field annually.

Congratulations to Leigh VK2KRR who managed to work 133 grid squares on the bands from 50 MHz to 24 GHz. A total of 53 operators submitted scores for 2006. The top 10 scores are shown in Table 1:

Full details of the results may be found at www.vklogger.com/agt

The 2007 competition is in full swing, with the current top score at 83. It's not too late to enter (63 people have already). Go to www.vklogger.com/agt2007 and enter your current grid square counts to join in on the fun.

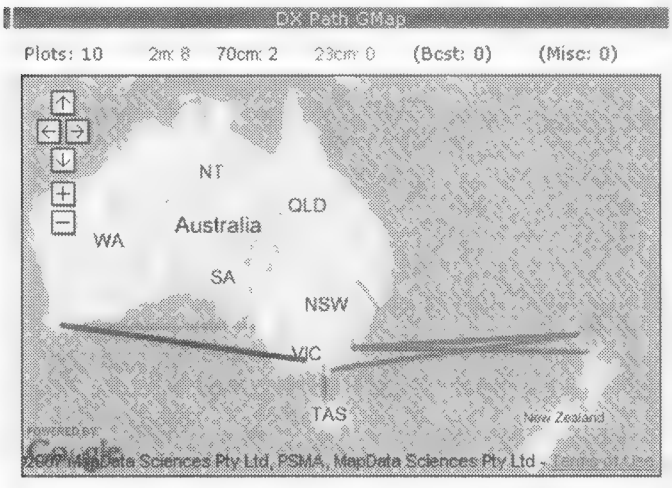
Operator Details		Terrestrial Contacts					EME		Total
Callsign	Name	50	144	432	1296	10G	144	432	Squares
VK2KRR	Leigh	29	44	24	8	-	26	2	133
VK4WS	Wayne	51	40	5	2	-	25	1	124
VK5UBC	Brian	60	37	21	1	-	-	-	119
VK4ABW	Gary	71	10	3	-	-	21	1	106
VK7AC	Norman	45	41	8	8	-	-	-	102
VK5AKK	Phil	25	37	23	11	-	-	-	96
VK3UH	Len	39	26	15	8	2	-	-	90
ZL3TY	Bob	-	14	-	-	-	70	-	84
VK4ZQ	Roy	40	20	12	5	-	-	-	77
VK3AAK	Michael	30	27	15	4	-	-	-	76

Table 1

VK/ZL Logger Enhancements

I seem to write regularly about the VK/ZL Propagation Logger, and for good reason. Not only is it proving to be a very valuable resource for the VHF/UHF operator, but it is also being continually improved with new functions being added by Adam VK4CP on an almost daily basis (only slight exaggeration there).

One of the latest significant enhancements is the addition of a Spot facility where notable QSOs or beacon reports can be entered. A map, courtesy of Google Maps, is displayed in the top corner of the page showing the paths of recent Spots. The example below is from 3 February when VK6RST was being heard in VK3 and VK5, VK7s were working VK3s and ZL1IU was hearing the VK3RGI beacon and working into VK2.



http://www.vklogger.com/50logger

ACMA to the Rescue

Sometimes people complain that ACMA is very willing to take our licence fees, but then treats us as "self-regulating" and is reluctant to provide any assistance when it is the amateur that suffers from interference problems. Alan VK3XPD sent in this report of his very positive dealings with ACMA when he had a severe interference problem on 2 metres:

Recently I noticed the sudden appearance of an unusual S9+ "Birdie/ Interference" on and around 144.100 MHz - the 2 metre SSB Call Frequency. The interfering signal was loudest when beaming at Adelaide from my QTH in Camberwell, Melbourne, so that was the end of any "weak signal" QSO's until the problem either cleared itself (as is normal) or the interfering source was located and eliminated.

After 3 days of enduring the problem for 24/7, I was becoming a bit desperate. The interference was moving up and down the band. I asked a few nearby amateurs to take a listen, but nothing heard. So it had to be close-by and rather weak in nature.

Finally, I decided to access the Australia Communications Management Authority (ACMA) website. However, in today's de-regulated communications environment, I was not confident that an Amateur Radio enthusiast lodging an interference complaint would elicit any action. We are, after all, not part of the commercial world and, to a great degree, we are indeed self-regulated.

I rang the ACMA Interference Hotline and started to discuss the interference I was experiencing only to be cut short by: "I'm not technical - you will have to lodge your complaint by email". This I did with plenty of detail in the hope of getting some action.

A week passed ... nothing. The interference was still there and still agile. I followed up with another complaint. Another week later and still no action. I was beginning to look at my alternate options when there was a knock at the door and an unexpected visit by ACMA officer Peter Tapai.

I showed him the nature of the interference and its direction and I guess he surreptitiously looked about my station/gear to ensure that I was not the cause of the interference.

On his way out to investigate further, I happened to ask: "What will you be using to locate this problem" ? I was rather taken aback by his response - An old R7000 general coverage receiver. And the antenna I asked? Oh, just a vertical he replied.

So off he trotted in the direction of the interference.

Not 30 minutes later, he returned with good news. It turns out the offending interference was located at the rear of a house some 3 kilometres to the north west of this QTH. The cause - an unstable general-purpose amplifier attached to some "rabbit ears" feeding an FM Tuner. The owner had just returned from the UK and fitted this amplifier to improve his FM reception.

My sincere thanks must go to ACMA and Mr Peter Tapai for their efforts in assisting this Amateur.

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.

au Digital DX Modes

Rex Moncur – VK7MO

In the normal arrangement for JT65, WSJT is set up to run a QSO in EME format with the OOO report. For terrestrial contacts it is generally required that a report include at least 2 unknown characters. In VK, it is a requirement for record claims and most VHF contests to send at least two characters of unknown information. WSJT makes provision for sending two character reports based on the dB level of the signal in the range -01 to -30 dB. These dB level reports are sent in place of the grid square and can be typed over the standard EME message in any line, but it is usually easier to use the first line. WSJT also makes provision to send Rogers (RRR) and 73 in conjunction with both callsigns in this way. Whether you send RRR or 73 in conjunction with callsigns or in short-hand form is a matter of choice as both methods give a very high level of QSO integrity – providing the short hand method is supported by clear evidence of two tones on the waterfall. An example of a terrestrial QSO using JT65 is as follows:

CQ VK3II
VK3II VK2DAG -23
VK2DAG VK3II R-21
VK3II VK2DAG RRR
VK2DAG VK3II 73

The last line with 73 is useful only to tell the other operator that the QSO is completed and is not in itself an essential element of a valid QSO.

The dB format reporting system requires close adherence to the correct format to ensure it is correctly sent. For example if you put an extra space in front of the signal report or send reports outside the range -01 to -30 or leave in say part of the grid locator, this will all lead to sending something other than what you intended. You must send the signal report as the two numerals (e.g. -01 rather than –1) to have it sent correctly. Another restriction is that it is not possible to combine the EME OOO report with a dB report, which is a good reason to always use the first line to prepare your terrestrial messages. The easy way to check what is being sent is to look at the transmitted message that appears at the bottom right hand corner of the WSJT window at the time of transmission. It is wise to get into the habit of checking what is being sent each time you send a message when using the terrestrial format.

WSJT measures the signal level by looking for the level of the sync tone, which has a particular format that does not occur when using shorthand messages. Thus WSJT will not give accurate measurements of signal level on shorthand messages and these should be avoided if you are for example using WSJT for propagation studies.

Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au.

The Magic Band – 6 m DX

Brian Cleland – VK5BC

Good Sporadic E conditions continued through January and into early February. Although the number of active stations decreased in January, the band continued to open on most days - I guess a lot of operators were back at work.

In VK5 openings were recorded at my QTH on the following days in January:

2nd	ZL, VK2, VK1
3rd	VK4
4th	VK6
5th	VK8 (Alice Springs)
6th	ZL, VK2, VK7
7th	ZL, VK1, VK2, VK3, VK4, VK5 (Mt Gambier), VK6, VK8
8th	VK8 (Darwin)
11th	ZL, VK2, VK4, VK7
12th	ZL, VK3
13th	VK2
14th	VK6, VK7
15th	VK2, VK3, VK6
16th	VK3, VK4, VK6
17th	VK2, VK4
18th	VK4
19th	ZL, VK1, VK2, VK3, VK4
20th	VK2, VK4, VK8 (Darwin & Alice Springs)
21st	VK4
23rd	VK4, VK6
24th	ZL, VK2, VK4, VK6
25th	VK4
26th	VK6
27th	VK2
28th	VK4, VK6
30th	VK6
31st	VK4

One of the more interesting contacts this season was with Wayne VK6JR, operating portable from the balcony of a hotel in Kalgoorlie. Wayne was using a vertical strapped to the balcony rail and using an IC-706MkII at about 30 W on a Gel Cell battery. He was 5/9 into VK5 and also managed to work some VK4's.

Other than the many ZL openings, there has been no international activity except for a brief opening to JA from VK5 on January 20th with weak JA signals being heard in Adelaide. The only contact made though was between Col VK5RO and a JA1 on CW.

This summer sporadic E season has been one of the best with high activity from all states. Notably there has been good activity from VK8 (both Alice Springs and Darwin) as well as higher activity from far Northern Queensland (Cairns area). Also VK7 has been well represented from both the Hobart area and the Northern coastline. Other notable features have been the high number of openings to New Zealand and the regular VK6 openings to the eastern states and ZL. On the downside has been the lack of activity from New Caledonia. The FK8 beacon has been regularly heard from all states but I have only received one report from Brad VK2GWB of a contact with FK8GB on the 7th January.

Received a note from Tony P29AJ who says he has been hearing VK's on 6m on his IC-706 using a long wire antenna. He is in the process of getting a tuner to cover 6 m but if he can raise enough aluminium tubing will build a small Yagi. If you can help Tony, his email is service@prosec.com.pg. Certainly would be good to have a P29 active on 6 m.

One big enhancement to 6 m operating this season has been the introduction of a 6 m logger produced by Adam VK4CP. This allowed 6 m information to be logged separately from the existing V/UHF logger. The logger has many features including operator and beacon information and allows you to spot beacons, stations etc with the logger then pictorially displaying the spots on a map so that with a glance of the map you can see where the band is open. The logger can be found at:

www.vklogger.com/50logger

Good work Adam.

Please remember to send any 6 m information to Brian VK5BC at bcleland@picknowl.com.au.

Hamads *classifieds* FREE

WANTED NSW

•Service manual or schematic diagram required to buy or copy for an YAESU FT-7 HF Transceiver. Cost of coping refunded. Vince VK2PVD 02 6732 2597 A/h email: deputydawg@ozemail.com.au.

FOR SALE QLD

•1 x FT-900 YAESU transceiver including ATU and COLLINs filter, manual etc $800 ono.1 x KENWOOD SSB filter YK-88SN $25. 1 x KENWOOD SSB filter – YG-88S $25. Serial no of transceiver 5D100473. Bill VK4KDB QTHR bbbeimers@teleone.net.au, ph 07 4159 9919.

FOR SALE SA

•ICOM IC-735 HF transceiver, Serial No. 28758. Ideal for Foundation Licence. User Manual and Service Manual on CD. Would require 13.8 V power supply. $450.00. Ron Holmes VK5VH QTHR, 08 8363 9008 or email vk5vh@chariot.net.au.

•VK5JST Antenna Analyser kits (see AR article May 2006). Build yourself an extremely useful item for your shack, and improve your HF antenna efficiency. For more details see www.scarc.org.au; contact SCARC PO Box 333 Morphett Vale SA 5162, or email: kits@scarc.org.au.

•VK5LS complete station for disposal. List may be supplied by email on request to Navdenn@optusnet.com.au. QTHR correct in Call Book.

WANTED SA

•Copy of instruction sheet for STAEDTLER No 54106 ELECTRO slide rule.Ivan VK5QV QTHR, vk5qv@esc.net.au, 08 8322 3668.

•Your Boat-anchor on air.After a conversation on 40 m one evening, the idea was mooted by a few blokes after a few "Gassy 807s", that once a week operators with Valve Radios or Hybrid Valve radios meet for a general "Rag-Chew" on 40 m. The frequency of 7.087 MHz + or – QRM was suggested with a calling time 0900 Z on Tuesday evenings with the idea of forming an Australian Boat-anchor group. If the interest is there this can be a bit of fun, with the emphasis of keeping valve equipment running and on the air. So pull your old YAESU, KENWOOD, SWAN, DRAKE, HEATHKIT, COLLINS, HALLICRAFTERS, HAMMARLUND and homebrews out of the cupboard and fire em up, remember Keep em glowin! Contact me if you have any queries Frank Woolfe VK5MFW, frankwoolfe@optusnet.com.au.

THE WIA QSL COLLECTION REQUIRES QSLS

All types welcome, especially rare DX pictorial cards, special issue. Please contact the Hon Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose Vic 3765, tel.

(03) 9728 5350

VIDEOEMAIL.

Also Live Video Messenger and Conferencing for Teaching,Talks and Tutorials.
Do away with websites.
Brand your Videoemail and watch your business skyrocket.
Put video on your eBay ads.
FREE 30 day trial
Email to: arecibo@bigpond.com

Are you managing the estate of a 'Silent key'?

Please save any QSLs for the National QSL collection, but first contact:

The Hon. Curator,
Ken Matchett VK3TL
on (03) 9728 5350
or email:
jeandawson@iinet.net.au

Rare DX, special call-signs prefixes and suffixes, pictorials and pre-war QSLs are needed.

Let us save something for the history of amateur radio.

RM Products Italy

are now available in Australia after the appointment of

Hamak Electrical Industries Pty Ltd

as distributor for RM products

Visit the Hamak website at ***Hamak.com.au*** for

Linear amplifiers, Power supplies and accessories

About hamads....

- Submit by **email (preferred)** or on the **form on the reverse of your current Amateur Radio address flysheet**. Please print carefully and clearly, use upper AND lower case.
- Separate forms for For Sale and Wanted items. Please include name, address STD telephone number and WIA membership number if you do not use the flysheet.
- Deceased estates Hamads will be published in full, even if the ad is not fully radio equipment.
- WIA policy recommends that the serial number of all equipment for sale should be included.
- QTHR means the address is correct in the current WIA Call Book.
- Ordinary Hamads from those who are deemed to be in general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes.
- Commercial advertising on these pages Contact Newsletters Unlimited.
- Copy typed or printed clearly please, and received by the deadlines shown on page 1 of each issue of Amateur Radio.

Email: ***newunltd@bigpond.net.au***

Postal: *Newsletters Unlimited, PO Box 431, Monbulk Vic 3793.* **Fax:** *03 9756 7031*

TRADE PRACTICES ACT
It is impossible for us to ensure that the advertisements submitted for publication comply with the Trade Practices Act 1974. Therefore, advertisers and advertising agents will appreciate the absolute need for themselves to ensure that the provisions of the Act are strictly complied with.

VICTORIAN CONSUMER AFFAIRS ACT
All advertisers are advised that advertisements containing only a PO Box number as the address cannot be accepted without the addition of the business address of the box-holder or seller of the goods.

ADVERTISERS INDEX

AEI 22
ARI 20
Amateur Radio Bookshop 55
Andrews 28
Com-an-tena 16
G & C 8
Featuretech 35
Icom ..... OBC
Jenlex 17
Ozgear 40
TTS 34
Small ads 55
KVK 41
Radio exchange 18
TET-Emtron 9
Vertex ..... IFC
Winlink 35

JACKSON BROS

JACKSON OF THE UK IS BACK

Highest quality products made by UK craftsmen

www.jacksonbrothers.com.au

Full range now off-the-shelf in Australia

Variable and trimmer capacitors, reduction drives, dials, ceramic standoffs

CATALOGUES, PRICE LISTS AVAILABLE

CHARLES I COOKSON PTY LTD
11-13 Port Rd
Queenstown SA 5014
Tel: (08) 8240 3200 Fax: (08) 8240 3233
FreeFax 1800 673355 within Australia

Email: sales@jacksonbrothers.com.au

ALL MAJOR CREDIT CARDS ACCEPTED
SOLE AGENTS AUSTRALIA AND NEW ZEALAND

AMIDON FERROMAGNETIC CORES
For all RF/electronic applications.
See our website for complete data on all cores.
www.catchnet.com.au/~rjandusimports
RJ & US Imports
PO Box 431, Kiama NSW 2533.
A 3.5" PC disk containing all data is available for $5.00 incl. post.
Agencies
Active Electronics, Tas
TTS Systems, Tyabb (VIC)
Tower Communications, Perth
Ozhelp Services, Brisbane
MiniKits, Adelaide

Amateur Radio Bookshop

Download our catalogue at

http://www.wia.org.au

Amateur Radio Bookshop
PO BOX 3084
EAST BLAXLAND
NSW 2774
Office: WIA National Office
Tel 03 9528-5962
Fax 03 9523-8191
bookshop@wia.org.au

ARRL – RSGB publications
books
magazines
CDROMs - DVDs

Tunable Loop Antenna enhances AM Reception

AM radio reception (530 to 1900KHz) enhanced. Reception where none existed before; works indoors, **even in interference-polluted areas** High value — low cost. Simple, no connections or batteries Ideal for touring, caravan, boat and fringe areas. Use anywhere.

www.amradioantennas.com
pkloops@bigpond.net.au
Paul 0412 302 939
PK's Loop Antennas

Wanted to Buy QSL Cards

I am looking in particular for pre-1960 cards but will purchase entire collections from estates etc.
Price dependent on age and quality
Please call Mike Goode VK3BDL on

0412 221 649

or email
mikegood@netspace.net.au
with details of what you have

VKHAM.COM
AUSTRALIAN AMATEUR RADIO

Hundreds of pages and links related to Amateur Radio and radio in general

Home of:
- **VK Classifieds**
- **VK Auctions**
- **VK's on the Internet**

Repeater Maps, Software, Prefix Maps and more ...

HF, VHF, UHF ANTENNAS & ACCESSORIES

Aluminium towers, guys etc
Diamond VSWR/PWR meters.
HD copper antenna wire & insulators, TX tubes & pwr transistors,
full range Create Rotators
Quality coax cables & connectors.
Free advice & catalogue.

ATN Antennas

Ph 03 5492 2224 Fax 03 5492 2666,
email atnant@iinet.net.au
PO Box 80, Birchip Vic 3483

Become a radio amateur

Check out the courses on offer from Australia's premier training institution for radio amateurs and hobbyists.

Already licensed?

Upgrade to the Standard licence using our self paced multi-media CD ROM course.
The easiest way to become a licensed radio experimenter.
Discover digital communications, get more power and more bands

Still want more?

Be guided by one of our experienced facilitators using our proven on-line study methods and get your Advanced licence.

Visit

http//www.radioelectronicschool.com
for more information, or email the course manager at

info@radioelectronicschool.net

Telephone 07-5573-2795 12-5PM AEST

Amateur radio – a bridge to careers in radio communications technology

Directory

The Amateur Service:

a radio communications service for the purpose of self training, intercommunication and technical investigation carried out by amateurs, that is, by duly authorised persons interested in radio technique with a personal aim and without any pecuniary interest. 1.56 ITU Radio Regulations.

The Wireless Institute of Australia represents the interests of all amateurs throughout Australia.

The WIA offers one year and 5 year membership for all categories except Concession Student. The fees for each category are Full members $75 ($365), Overseas members $85 ($403), Concession members (pensioner) $70 ($332), Concession members (student) $70, Full members no magazine $50 ($237), Family members $40 ($190)

National Office	Contact	News Bulletin Schedule
10/229 Balaclava Road, Caulfield North VIC 3161, PO Box 2175 Caulfield Junction Vic 3161 Australia	Phone 03 9528 5962, Fax 03 9523 8191, 10am to 4pm daily, nationaloffice@wia.org.au http://www.wia.org.au	Subject to change. See www.wia.org.au follow National News prompts. Contact nationalnews@wia.org.au National VK1WIA news is distributed to all states.

Advisory Committees	Contact	News Bulletin Schedule
VK1 Australian Capital Territory VK1WX Alan Hawes VK1ZPL Phil Longworth VK1ET John Woolner VK1GH Gil Hughes	vk1advisory@wia.org.au	Sundays at 11.00 am VK1WIA 7.128, 146.950,438.050 Canberra Region Amateur Radio Club Email newsletter will be sent on request to president@vk1.ampr.org
VK2 New South Wales VK2QV Chris Flak VK2XCD Chris Devery VK2BFN Adrian Clout	Phone 02 9689 2417 vk2wi@ozemail.com.au vk2advisory@wia.org.au	VK2WI - Sunday 1000 and 1930 hours local.1.845; 3.595; 7.146; 10.125; 14.170; 28.320, 52.525; 145.600; 147.000; 438.525; 1273.500 megahertz. Plus regional relays. VK1WIA news included in the morning
VK3 Victoria VK3JJB John Brown VK3PC Jim Linton VK3APO Peter Mill	Phone 03 9885 9261 arv@amateurradio.com.au	VK1WIA, Sunday 11am and 8pm, 3.615 and 7.085 (LSB), 10.130 (USB), VK3RML 146.700, VK3RMM 147.250, VK3RMU 438.075.
VK4 Queensland VK4BY Don Wilchefski VK4ZZ Gavin Reibelt VK4KF Ken Fuller	vk4advisory@wia.org.au	VK1WIA, Sunday 9.0am via HF and major VHF/UHF rptrs
VK5 South Australia and Northern Territory VK5OV David Box VK5APR Peter Reichelt VK5ATQ Trevor Quick	Phone 08 8294 2992 boxesdnm@lm.net.au peter.reichelt@bigpond.com vk5advisory@wia.org.au	**VK5 South Australia** VK5WI: 0900 am local time. 1.843 LSB, 3.550 LSB, 7.140 LSB, 28.470 USB, 53.1 AM, 147.000 FM Adelaide, 146.900 FM South East, 146.925 FM Central North, 439.975 FM Adelaide North. **VK8 Northern Territory** 0900 local time 3.555 LSB, 7.050 LSB, 10.130 USB, 146.900 FM.
VK6 Western Australia VK6NE Neil Penfold VK6XV Roy Watkins VK6OO Bruce Hedland-Thomas	Phone 08 9351 8873 http://www.vk6.net/ vk6advisory@wia.org.au vk6ne@upnaway.com vk6xv@bigpond.net.au	VK6WIA: 146.700 FM(R) Perth at 0930hrs Sunday relayed on 1.865, 3.564, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120 FM, 50.150 and 438.525 MHz, Country relays 3.582, 147.200 (R) Cataby, 147.350 (R) Busselton, 146.900 (R) Mt William (Bunbury).147.000 (R) Katanning and 147.250 (R) Mt Saddleback. Broadcast repeated on 146.700 at 1900 hrs Sunday relayed on 1.865, 3.564 and 438.525 MHz : country relays on 146.900,147.000, 147.200, 147.250 and 147.350 MHz..Also in "Realaudio" format from the VK6 WIA website
VK7 Tasmania VK7ZAX Phil Corby VK7DG Dale Barnes VK7KK Reg Emmett	Phone 03 6234 3553 vk7advisory@wia.org.au phil.corby@tassie.net.au vk7dg@wia.org.au regemm@ozemail.com.au	VK1WIA Sunday 9am on VK7WI network: 3.570MHz LSB, 146.700 MHz FM (VK7RHT South), 53.825MHZ FM (VK7RAD South), 147.000MHz FM (VK7RAA North), 146.750 FM & 53.825MHz (VK7RNW North West), 146.625 MHz FM (VK7RMD North West), UHF CB Channel 15 (Hobart) and 27MHz CB - 27.225MHz LSB (Hobart). Followed at 9:30am with VK7 Regional News Broadcast also on 7.090MHz LSB & 14.130MHz USB

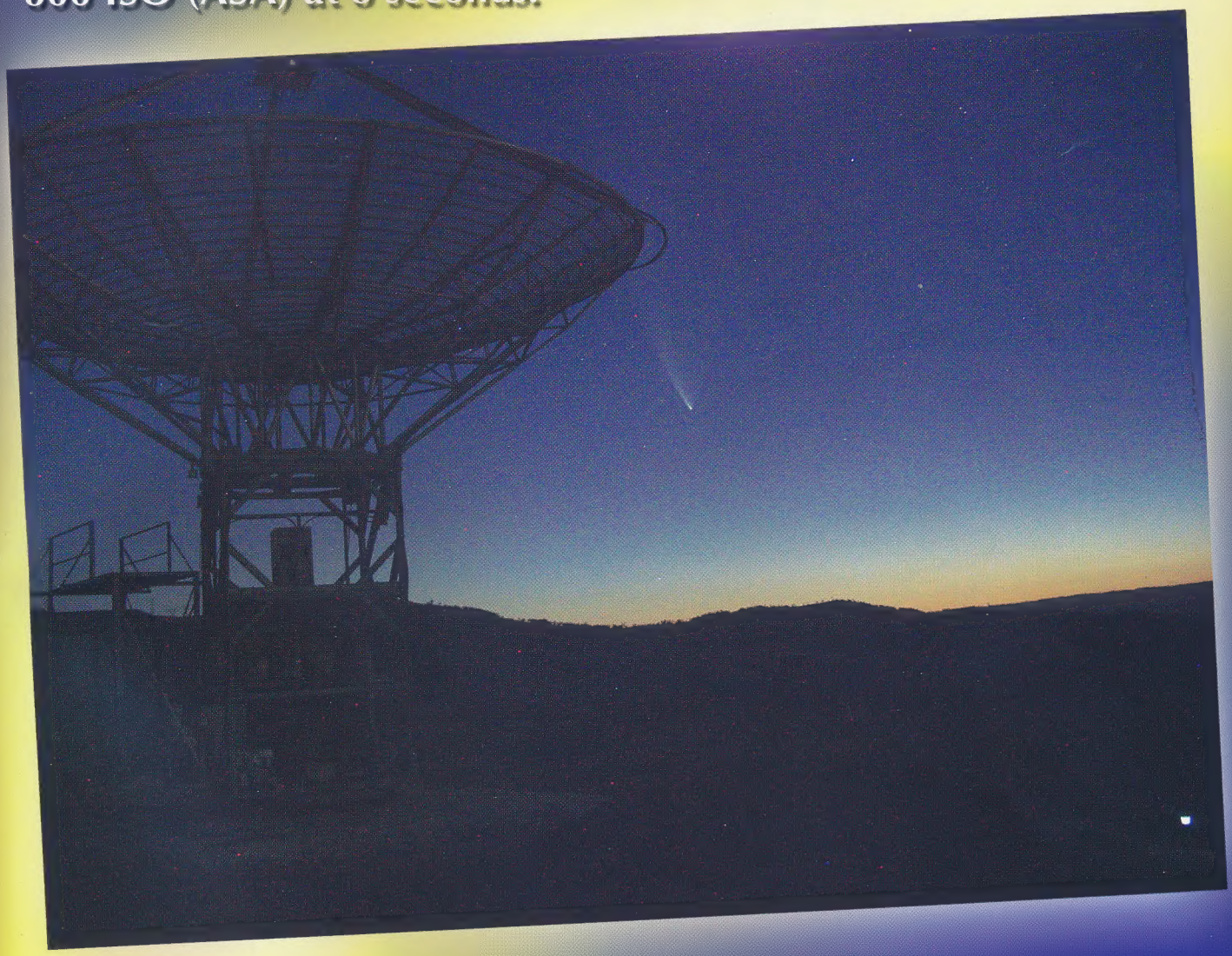
Notes

1. Only three members of the state advisory committees are listed.
2. All listings are preliminary. They will be updated each month as required.
3. Membership application forms are available from the WIA web site www.wia.org.au or the national office address above.

Comet McNaught

Doug McArthur VK3UM

This photo was taken of Comet McNaught on 25th January 2007 at the QTH of VK3UM, 10 km North of Glenburn, Victoria. The Dish is 10 metres in diameter and has dual 23 cm (IMU feed) and 70 cm dual polarity dipoles. The camera used was a 2001 Ricoh 4MP with an exposure of 800 ISO (ASA) at 8 seconds.



ICOM's price break through

most affordable prices ever

Amateur

IC-706MKIIG The Legendary IC-706MKIIG

• 1.8MHz – 430MHz • All mode • Fully remoteable • 100W on HF & 6m, 50W on 2m and 35W on 70cm • Standard DSP, Passband tuning, Noise reduction • GO mobile, go with the IC-706MKIIG • Still No.1

IC-2720H Twice the Action, Twice the Fun

• V/V, U/U simultaneous receive capability, independent controls, 212 memory channels, wideband receiver HM133 control mic with DTMF for IRLP and Echolink • Squelch attenuator to effectively reduce pager interference • A MOSFET PA drives 50W on 2m and 35W on 70cm • Remote mounting kit with separation cable standard • Why not ask for a demonstration at your authorised Icom dealer

ICOM

ICOM 184

Call your local ICOM dealer www.icom.net.au or (03) 9549 7500

Volume 75 Number 3 MARCH 2007 Print Post Approved PP349181/00420